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ABSTRACT

This document presents 1992 statistical data on science and engineering expenditures for separately budgeted research and development (R&D) programs that were obtained from over 450 institutions of higher education, including all doctorate-granting institutions, all historically black colleges, and universities with any R&D expenditures. Trend data are presented in 16 data tables comprising over 90 percent of the report. Among the findings are the following: (1) total R&D expenditures increased by almost 7 percent, from $17.6 billion in fiscal year (FY) 1991 to $18.9 billion in FY 1992, compared with a national inflation rate of 3 percent; (2) R&D expenditures sponsored by the Federal Government increased by over 8 percent, and R&D spending from non-Federal sources increased by 5 percent; (3) the greatest percentage gain by non-federal source of funds over FY 1991, nearly 8 percent, was in industry-sponsored R&D expenditures; (4) seven of the eight major science and engineering fields outpaced the 3-percent inflation rate; and (6) expenditures from current funds for academic research equipment totaled just over $1 billion in FY 1992. (GLR)

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Selected Data on Academic Science and Engineering R&D Expenditures: Fiscal Year 1992

Principal Author: M. Marge Machen

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Contributors

Data collection, preparation, and tabulations were performed by Quantum Research Corp. for the National Science Foundation. The Project Officer for this report was M. Marge Machen.

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Selected Data on Academic Science and Engineering R&D Expenditures

The data presented in this summary are being released in advance of a more comprehensive detailed statistical tables publication and are compiled from the National Science Foundation's Survey of Scientific and Engineering Expenditures at Universities and Colleges Fiscal Year (FY) 1992. They refer to science and engineering (S&E) expenditures for separately budgeted research and development (R&D). The phrase separately budgeted research and development expenditures refers to all funds that are expended for activities specifically organized to produce research outcomes and that are commissioned by an agency external to the institution or that are separately budgeted by an organizational unit within the institution.

Data presented in these tables are assembled from the most recently completed survey and represent the latest totals available as of October 1993. Since both current-year and prior-year data are subject to revision in subsequent years, references to prior-years' data should be restricted to the latest data release.

Survey Coverage

Data in the FY 1992 survey were collected from a sample of institutions of higher education in the United States and outlying areas. Those institutions were selected from the universe of 594 schools that grant a graduate S&E degree and/or perform activities for which at least $50,000 has been funded from separately budgeted R&D expenditures. The 461 institutions sampled include all doctorate-granting institutions, all historically black colleges and universities with any R&D expenditures, and a random sample of all other institutions. Survey responses were received from almost 99 percent of these institutions.

Summary of Findings

Total R&D expenditures increased by almost 7 percent, from $17.6 billion in FY 1991 to $18.9 billion in FY 1992, compared with a national inflation rate of 3 percent.

R&D expenditures sponsored by the Federal Government increased by over 8 percent, and R&D spending from non-Federal sources increased by 5 percent (5 percent and 2 percent respectively when adjusted for inflation). Federal R&D expenditures account for 59 percent of the total FY 1992 R&D expenditures at universities and colleges, up slightly from 58 percent in FY 1991.

The greatest percentage gain by non-federal source of funds over FY 1991, nearly 8 percent (5 percent after inflation), was in industry-sponsored R&D expenditures, which increased to $1.3 billion in FY 1992.

Seven of the eight major science and engineering fields outpaced the 3-percent inflation rate. Only computer sciences increased at a rate lower than inflation (less than 1 percent after several years of rapid growth).

Expenditures from current funds for academic research equipment totaled just over $1 billion in FY 1992, representing an increase of more than 2 percent over FY 1991. After adjusting for the effects of inflation, this total amounts to an overall decline of less than 1 percent.

For further information concerning the academic S&E survey's data availability and technical aspects of the survey, please contact

M. Marge Machen
Science & Engineering Activities Program
Division of Science Resources Studies
National Science Foundation
4201 Wilson Boulevard, Suite 965
Arlington, VA 22230

Phone: (703) 306-1772
Fax: (703) 306-0510
E-mail: mmachen@nsf.gov

Data Tapes

Public-use data tapes from the Integrated Academic Science and Engineering Data Base are available for purchase and will normally be shipped within 3 working days from order receipt. Data tapes from the most recent

surveys (1992) are currently available. Individuals interested in obtaining data tapes should request a copy of the Data User Guide to the National Science Foundation's Academic Science and Engineering Statistics Surveys Data Tape, which contains order forms and detailed information about the tapes. This document may be obtained by calling NSF's Division of Science Resources Studies at (703) 306-1772.

Institutional Profiles

Selected data items for individual doctorate-granting institutions and schools with S&E departments that grant a master's degree will be available later this year on computer-generated Institutional Profiles. An Institutional Profile consists of data not only from this survey, but also from NSF's other two academic surveys: Federal Support to Universities, Colleges, and Nonprofit Institutions, and Graduate Students and Postdoctorates in Science and Engineering. For information on obtaining one or a limited group of Institutional Profiles, please call Mr. Richard Bennof at (703) 306-1772.

CASPAR

Institutional planners are now able to acquire data from several academic S&E resources on CD-ROM compact disc.

The compact disc contains the Computer-Aided Science Policy Analysis and Research (CASPAR) database system, which is an easy-to-use tool for retrieval and analysis of statistical data on academic S&E resources. CASPAR provides the analyst with an extensive and growing data library with multiyear statistics on the state of higher education in general and on academic S&E resources specifically. This data library is based on a set of standardized institutional and field of science definitions across the multiple sources used to develop the database. The CASPAR program includes built-in help capabilities to facilitate the use and interpretation of the data.

CASPAR data are drawn from a number of sources. All data are available for individual institutions, by State, and at the national level. Longitudinal data from surveys of universities and colleges conducted by the NSF Division of Science Resources Studies include the R&D Expenditures Survey and the Federal Support Survey, in addition to the Graduate Student Survey. Data from surveys of universities and colleges conducted by the National Center for Education Statistics include Earned Degrees; Opening Fall Enrollment; Faculty Salaries, Tenure, and Fringe Benefits; and Financial Statistics. Data from other sources include the National Research Council Doctorate Program Ratings.

For additional information on CASPAR, write to the following address:

Quantum Research Corp.
ATTN: CASPAR
7315 Wisconsin Avenue, Suite 631W
Bethesda, MD 20814

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Table 1. R&D expenditures at universities and colleges, by source of funds: fiscal years 1953-92

[Dollars in millions]

Fiscal year	Total	Source of funds				
		Federal Government	State and local governments	Industry	Institutional funds	All other sources
1953	255	138	37	19	35	26
1954	290	160	42	22	38	28
1955	312	169	47	25	41	30
1956	372	213	53	29	43	34
1957	410	229	60	34	49	38
1958	456	254	68	39	53	42
1959	526	306	76	39	58	47
1960	646	405	85	40	64	52
1961	763	500	95	40	70	58
1962	904	613	106	40	79	66
1963	1,081	760	118	41	89	73
1964	1,275	917	132	40	103	83
1965	1,474	1,073	143	41	124	93
1966	1,715	1,261	156	42	148	108
1967	1,921	1,409	164	48	181	119
1968	2,149	1,572	172	55	218	132
1969	2,225	1,600	197	60	223	145
1970	2,335	1,647	219	61	243	165
1971	2,500	1,724	255	70	274	177
1972	2,630	1,795	269	74	305	187
1973	2,884	1,985	295	84	318	202
1974	3,022	2,032	308	95	368	219
1975	3,409	2,288	332	113	417	259
1976	3,729	2,512	364	123	446	285
1977	4,067	2,726	374	139	514	314
1978 1/	4,625	3,059	414	170	623	359
1979	5,368	3,598	472	193	735	368
1980	6,063	4,098	491	236	835	403
1981	6,847	4,571	546	292	1,004	435
1982	7,323	4,768	616	337	1,111	491
1983	7,881	4,989	626	389	1,302	576
1984	8,620	5,430	690	475	1,411	614
1985	9,686	6,063	752	560	1,617	694
1986	10,927	6,710	915	700	1,869	733
1987	12,152	7,342	1,023	790	2,169	828
1988	13,463	8,192	1,106	872	2,357	936
1989	15,019	8,997	1,234	998	2,714	1,076
1990	16,334	9,637	1,339	1,130	3,033	1,195
1991	17,638	10,226	1,484	1,210	3,404	1,313
1992	18,880	11,087	1,506	1,302	3,576	1,409

1/ Fiscal year 1978 data are estimated based on data collected from doctorate-granting institutions only.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 2. R&D expenditures at universities and colleges, by source of funds and science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Source and field	1985	1986	1987	1988	1989	1990	1991	1992
Total	9,686,420	10,926,948	12,151,935	13,462,796	15,019,003	16,334,400	17,637,627	18,879,705
Source of funds:								
Federal Government	6,063,176	6,710,320	7,341,570	8,191,521	8,996,808	9,637,485	10,226,104	11,087,032
State and local governments	752,146	915,135	1,023,430	1,106,428	1,234,140	1,338,598	1,484,443	1,505,515
Industry	560,027	699,759	790,161	871,960	998,431	1,130,397	1,209,909	1,302,018
Institutional funds	1,617,054	1,869,009	2,168,527	2,356,682	2,713,905	3,032,736	3,404,366	3,576,407
All other sources	694,017	732,725	828,247	936,205	1,075,719	1,195,185	1,312,806	1,408,732
Field:								
Engineering, total	1,417,876	1,640,734	1,891,744	2,096,154	2,397,709	2,663,146	2,907,412	3,082,262
Aeronautical and astronautical	80,525	94,422	108,150	122,814	145,077	159,320	176,121	191,647
Chemical	116,210	132,260	148,362	162,559	194,060	218,612	243,960	262,195
Civil	153,156	177,984	190,680	224,966	246,212	284,900	316,879	340,636
Electrical	337,403	394,869	450,836	509,143	600,013	667,491	683,014	711,746
Mechanical	207,751	227,987	274,873	303,469	343,781	392,251	422,613	456,124
Metallurgical and materials 1/	--	--	--	--	--	273,671	306,256	294,297
Other, n.e.c	522,831	613,212	718,843	773,203	868,566	666,901	758,570	825,618
All sciences, total	8,268,544	9,286,214	10,260,191	11,366,642	12,621,294	13,671,254	14,730,215	15,797,443
Physical sciences	1,148,141	1,286,424	1,397,878	1,553,736	1,648,912	1,809,339	1,945,057	2,057,842
Astronomy	96,083	101,795	108,429	126,764	136,590	169,594	208,947	231,945
Chemistry	421,212	469,385	513,145	564,841	609,534	650,926	670,963	701,216
Physics	551,053	630,586	673,461	739,661	784,509	841,805	871,832	915,347
Other, n.e.c	79,793	84,658	102,843	122,470	118,278	147,014	193,315	209,335
Environmental sciences	705,279	775,948	838,860	893,886	1,014,205	1,079,930	1,129,861	1,248,800
Atmospheric	107,534	119,948	131,649	137,553	170,246	178,066	180,151	193,887
Earth sciences	253,797	274,390	283,898	294,204	322,356	355,453	384,833	414,270
Oceanography	257,973	279,992	299,949	333,282	365,382	383,942	396,788	437,406
Other, n.e.c	85,975	101,618	123,364	128,847	156,220	162,469	168,089	203,236
Mathematical sciences	127,730	151,561	177,246	198,848	214,000	221,026	230,178	247,092
Computer sciences	280,756	321,316	372,411	408,509	472,190	513,838	553,593	555,572
Life sciences	5,278,815	5,890,275	6,528,085	7,257,011	8,081,805	8,748,152	9,495,977	10,227,816
Agricultural sciences	999,299	1,089,380	1,120,746	1,176,379	1,286,046	1,352,186	1,460,734	1,511,943
Biological sciences	1,780,387	1,945,542	2,143,136	2,398,627	2,640,787	2,856,816	3,055,107	3,318,933
Medical sciences	2,318,369	2,615,676	3,000,424	3,377,752	3,827,561	4,168,510	4,569,715	4,967,380
Other, n.e.c	180,760	239,677	263,779	304,253	327,410	370,640	410,422	429,560
Psychology	158,176	170,200	187,285	212,971	236,791	258,076	290,745	336,107
Social sciences	383,320	462,456	502,254	552,212	636,933	706,309	755,146	817,209
Economics	118,060	135,712	149,375	163,009	188,076	201,763	211,007	224,660
Political science	59,379	68,679	80,987	86,660	103,381	115,595	125,173	143,642
Sociology	75,489	96,877	96,668	109,491	121,798	134,096	157,957	165,631
Other, n.e.c	130,392	161,188	175,224	193,052	223,678	254,854	261,008	283,275
Other sciences, n.e.c	186,327	228,034	256,172	289,489	316,459	334,586	329,659	307,006

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 3. Federally financed R&D expenditures at universities and colleges, by science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Field	1985	1986	1987	1988	1989	1990	1991	1992
Total	6,063,176	6,710,320	7,341,570	8,191,521	8,996,808	9,637,485	10,226,104	11,087,032
Engineering, total	867,105	977,562	1,112,647	1,229,742	1,383,131	1,524,205	1,634,901	1,754,667
Aeronautical and astronautical	61,519	72,671	80,168	93,681	111,737	122,968	133,483	146,129
Chemical	64,619	73,284	76,652	85,508	101,187	110,630	117,602	126,462
Civil	78,834	88,360	89,699	103,135	101,664	115,939	122,751	143,982
Electrical	228,549	260,340	292,216	330,387	389,775	435,126	438,440	455,172
Mechanical	134,131	148,001	178,483	192,612	213,854	238,723	252,044	272,173
Metallurgical and materials 1/	--	--	--	--	--	139,204	154,088	142,457
Other, n.e.c	299,453	334,906	395,429	424,421	464,913	361,616	416,493	468,293
All sciences, total	5,196,071	5,732,758	6,228,923	6,961,779	7,613,677	8,113,280	8,591,203	9,332,366
Physical sciences	889,820	982,058	1,051,029	1,157,449	1,197,148	1,313,785	1,382,611	1,476,443
Astronomy	64,393	69,686	71,189	83,744	87,438	112,157	134,204	152,651
Chemistry	312,615	338,112	367,823	402,674	422,609	444,899	447,306	476,266
Physics	452,937	510,114	534,797	579,590	605,146	651,363	667,930	701,423
Other, n.e.c	59,875	64,146	77,220	91,441	81,955	105,365	133,172	146,104
Environmental sciences	473,980	516,762	545,662	589,113	660,752	690,832	707,844	799,184
Atmospheric	85,872	97,469	108,047	111,803	133,825	135,943	134,604	146,762
Earth sciences	154,071	160,108	159,523	174,522	186,079	204,420	216,460	236,012
Oceanography	187,666	208,063	217,702	238,508	265,942	267,633	267,810	310,864
Other, n.e.c	46,371	51,122	60,390	64,280	74,906	82,836	88,970	105,545
Mathematical sciences	96,979	114,359	131,952	149,959	156,459	159,580	170,064	182,725
Computer sciences	195,665	232,604	257,263	289,129	322,480	340,053	369,082	377,434
Life sciences	3,188,063	3,492,655	3,835,833	4,325,594	4,782,507	5,077,083	5,407,076	5,892,771
Agricultural sciences	294,083	292,465	297,676	322,571	348,563	351,888	375,403	413,437
Biological sciences	1,208,901	1,311,089	1,418,657	1,602,813	1,734,863	1,841,903	1,944,089	2,139,584
Medical sciences	1,576,544	1,742,129	1,961,800	2,212,997	2,501,033	2,665,223	2,842,512	3,088,901
Other, n.e.c	108,535	146,972	157,700	187,213	198,049	218,069	245,072	250,849
Psychology	105,904	114,001	123,830	140,358	155,802	168,320	192,059	221,641
Social sciences	153,806	172,867	168,697	188,988	211,776	225,720	251,528	278,430
Economics	43,711	45,448	43,425	49,171	54,217	54,198	59,651	66,126
Political science	19,669	20,172	24,035	25,163	25,572	25,143	28,287	35,813
Sociology	40,480	49,760	44,817	48,430	53,729	59,637	72,060	82,377
Other, n.e.c	49,946	57,487	56,420	66,224	78,257	86,741	91,529	94,114
Other sciences, n.e.c	91,854	107,452	114,657	121,189	126,752	137,908	110,939	103,738

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 4. Non-Federal R&D expenditures at universities and colleges, by source of funds and science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Source and field	1985	1986	1987	1988	1989	1990	1991	1992
Total	3,623,244	4,216,628	4,810,365	5,271,275	6,022,196	6,696,916	7,411,523	7,792,672
Source of funds:								
State and local governments	752,146	915,135	1,023,430	1,106,428	1,234,140	1,338,596	1,484,443	1,505,515
Industry	560,027	699,759	790,161	871,960	998,431	1,130,397	1,209,909	1,302,018
Institutional funds	1,617,054	1,869,009	2,168,527	2,356,662	2,713,905	3,032,736	3,404,366	3,576,407
All other sources	694,017	732,725	828,247	936,205	1,075,719	1,195,185	1,312,806	1,408,732
Field:								
Engineering, total	550,771	663,172	779,097	866,412	1,014,578	1,138,941	1,272,511	1,327,595
Aeronautical and astronautical	19,006	21,751	27,982	29,133	33,340	36,352	42,639	45,518
Chemical	51,591	58,976	71,710	77,053	92,673	107,982	126,358	135,733
Civil	74,322	89,624	100,981	121,831	144,548	168,961	194,127	196,654
Electrical	106,854	134,529	156,620	178,756	210,237	232,365	244,574	256,574
Mechanical	73,620	79,986	96,390	110,857	129,926	153,529	170,569	183,952
Metallurgical and materials 1/	..	..	..	..	..	134,467	152,167	151,839
Other, n.e.c	223,378	278,306	323,414	348,782	403,653	305,286	342,077	357,325
All sciences, total	3,072,473	3,553,456	4,031,268	4,404,863	5,007,617	5,557,974	6,139,012	6,465,078
Physical sciences	258,321	304,366	346,849	396,287	451,763	495,554	562,446	581,399
Astronomy	31,690	32,109	37,240	43,020	49,152	57,437	74,743	79,294
Chemistry	108,597	131,273	145,322	162,167	186,925	206,027	223,657	224,950
Physics	98,116	120,472	138,664	160,071	179,363	190,441	203,902	213,924
Other, n.e.c	19,918	20,512	25,623	31,029	36,323	41,649	60,143	63,231
Environmental sciences	231,299	259,186	293,198	304,773	353,453	389,098	422,017	449,616
Atmospheric	21,662	22,479	23,602	25,750	36,421	42,123	45,548	47,126
Earth sciences	99,726	114,282	124,375	119,682	136,277	151,034	168,373	178,258
Oceanography	70,307	71,929	82,247	94,774	99,440	116,309	128,977	126,542
Other, n.e.c	39,604	50,496	62,974	64,567	81,314	79,632	79,119	97,690
Mathematical sciences	30,751	37,202	45,294	48,889	57,541	61,445	60,115	64,367
Computer sciences	85,091	88,712	115,148	119,380	149,710	173,785	184,511	178,138
Life sciences	2,090,752	2,397,620	2,692,252	2,931,417	3,299,298	3,671,069	4,088,901	4,335,045
Agricultural sciences	705,216	796,915	823,070	853,808	937,484	1,000,298	1,085,331	1,098,507
Biological sciences	571,486	634,453	724,479	795,814	905,924	1,014,913	1,111,018	1,179,349
Medical sciences	741,825	873,547	1,038,624	1,164,755	1,326,529	1,503,287	1,727,203	1,878,479
Other, n.e.c	72,225	92,705	106,079	117,040	129,361	152,572	165,350	178,711
Psychology	52,272	56,199	63,455	72,613	80,989	89,755	98,685	114,466
Social sciences	229,514	289,589	333,557	363,224	425,157	480,589	503,618	538,779
Economics	74,349	90,264	105,950	113,838	133,859	147,565	151,357	158,535
Political science	39,710	48,507	56,952	61,497	77,808	90,452	96,886	107,829
Sociology	35,009	47,117	51,851	61,061	68,068	74,459	85,896	83,254
Other, n.e.c	80,446	103,701	118,804	126,828	145,421	168,113	169,479	189,161
Other sciences, n.e.c	94,473	120,582	141,515	168,280	189,707	196,678	218,720	203,268

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 5. R&D expenditures at doctorate-granting institutions, by source of funds and science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Source and field	1985	1986	1987	1988	1989	1990	1991	1992
Total	9,547,107	10,773,115	11,989,574	13,279,537	14,757,061	16,048,230	17,326,346	18,504,707
Source of funds:								
Federal Government	5,973,212	6,811,548	7,239,800	8,075,545	8,840,244	9,468,328	10,045,329	10,875,392
State and local governments	738,306	900,213	1,006,365	1,089,489	1,202,264	1,299,259	1,449,347	1,464,412
Industry	550,054	687,729	776,012	857,246	977,449	1,108,995	1,185,191	1,258,036
Institutional funds	1,599,895	1,850,465	2,149,584	2,333,150	2,679,689	2,993,973	3,354,844	3,522,476
All other sources	685,640	723,160	817,813	924,107	1,057,415	1,177,675	1,291,635	1,384,391
Field:								
Engineering, total	1,400,236	1,619,653	1,868,738	2,067,156	2,359,735	2,618,605	2,861,012	3,005,261
Aeronautical and astronautical	78,259	91,657	104,920	118,624	142,634	157,570	173,353	188,942
Chemical	115,142	131,046	147,024	160,227	191,520	216,295	242,065	259,844
Civil	150,728	175,096	187,478	220,913	240,941	279,240	308,285	332,194
Electrical	333,497	390,240	445,887	502,781	588,516	656,305	671,269	690,989
Mechanical	204,483	223,837	270,144	298,455	337,059	383,344	411,964	438,943
Metallurgical and materials 1/	--	--	--	--	--	272,943	305,307	292,204
Other, n.e.c	518,127	607,777	713,285	766,156	859,063	652,908	748,769	802,145
All sciences, total	8,146,871	9,153,462	10,120,836	11,212,381	12,397,326	13,429,625	14,465,334	15,499,446
Physical sciences	1,119,221	1,254,306	1,363,990	1,518,316	1,603,359	1,757,079	1,883,360	1,989,131
Astronomy	95,478	101,191	107,840	126,037	136,552	169,539	208,718	231,542
Chemistry	405,771	452,250	495,720	545,819	583,373	621,874	636,817	663,474
Physics	538,957	617,964	659,330	725,372	767,544	820,067	846,221	885,995
Other, n.e.c	79,015	82,901	101,100	121,088	115,890	145,599	191,604	208,120
Environmental sciences	689,227	759,244	821,165	877,799	984,086	1,045,755	1,093,337	1,204,787
Atmospheric	105,129	117,481	128,685	134,176	160,941	168,854	169,884	184,927
Earth sciences	249,078	269,300	278,060	289,095	318,254	347,468	375,751	402,034
Oceanography	254,246	276,293	296,114	329,968	353,633	371,874	383,888	420,344
Other, n.e.c	80,774	96,170	118,306	124,560	151,258	157,559	163,814	197,482
Mathematical sciences	123,955	147,509	173,836	195,025	209,395	215,919	221,800	237,332
Computer sciences	275,913	315,454	364,962	400,493	464,926	506,045	544,910	544,132
Life sciences	5,232,111	5,838,466	6,475,343	7,189,324	7,979,561	8,645,931	9,399,151	10,119,362
Agricultural sciences	978,789	1,067,264	1,099,066	1,150,847	1,245,897	1,311,767	1,417,572	1,465,537
Biological sciences	1,758,112	1,921,189	2,117,405	2,363,329	2,586,577	2,800,921	3,008,721	3,265,020
Medical sciences	2,316,398	2,612,678	2,996,999	3,373,787	3,821,701	4,165,140	4,564,957	4,962,090
Other, n.e.c	178,812	237,335	261,873	301,361	325,386	368,103	407,901	426,715
Psychology	153,131	164,769	181,039	205,654	224,819	242,371	271,800	315,495
Social sciences	369,794	448,895	488,364	539,133	618,492	688,182	729,605	791,760
Economics	116,145	133,504	147,486	160,790	184,560	198,004	203,762	217,026
Political science	58,008	67,266	79,564	85,027	102,123	114,127	124,002	142,060
Sociology	71,015	92,989	92,496	106,553	116,410	128,783	150,963	159,545
Other, n.e.c	124,626	155,136	168,818	186,763	215,399	247,268	250,878	273,129
Other sciences, n.e.c	183,519	224,819	252,137	286,637	312,688	328,343	321,371	297,447

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 6. Federally financed R&D expenditures at doctorate-granting institutions, by science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Field	1985	1986	1987	1988	1989	1990	1991	1992
Total	5,973,212	6,611,548	7,239,800	8,075,545	8,840,244	9,468,328	10,045,329	10,875,392
Engineering, total	857,245	965,640	1,100,212	1,214,384	1,364,022	1,502,870	1,612,701	1,724,884
Aeronautical and astronautical	59,489	70,173	77,243	89,901	109,728	121,515	131,320	144,026
Chemical	63,784	72,339	75,806	83,953	99,328	109,254	116,547	125,500
Civil	77,413	86,761	87,967	100,890	100,341	114,773	120,983	142,561
Electrical	226,705	256,285	290,212	327,912	383,100	427,980	431,142	442,205
Mechanical	132,237	145,363	175,565	189,564	210,434	233,392	245,247	262,724
Metallurgical and materials 1/	--	--	--	--	--	138,735	153,597	141,805
Other, n.e.c	297,617	332,719	393,419	422,164	461,091	357,221	413,865	466,063
All sciences, total	5,115,967	5,645,908	6,139,588	6,861,161	7,476,222	7,965,458	8,432,628	9,150,508
Physical sciences	868,759	959,386	1,026,897	1,132,467	1,166,449	1,279,968	1,342,462	1,430,122
Astronomy	63,919	69,291	70,798	83,225	87,420	112,121	134,010	152,254
Chemistry	301,986	326,371	356,161	389,428	405,928	426,764	426,244	451,478
Physics	443,242	500,053	523,409	568,964	592,328	636,349	649,804	681,092
Other, n.e.c	59,612	63,671	76,529	90,850	80,773	104,734	132,404	145,298
Environmental sciences	464,225	506,670	535,279	578,895	638,143	668,232	685,717	776,635
Atmospheric	83,625	95,164	105,218	108,644	125,167	127,728	125,925	138,709
Earth sciences	151,968	157,804	156,555	171,971	183,993	201,066	213,366	232,614
Oceanography	185,946	206,472	216,211	236,627	256,784	258,772	260,162	302,932
Other, n.e.c	42,686	47,230	57,295	61,653	72,199	80,666	86,264	102,380
Mathematical sciences	94,226	111,503	129,594	147,365	153,830	157,088	165,202	176,307
Computer sciences	192,734	228,855	252,617	283,758	318,857	336,642	364,516	371,606
Life sciences	3,155,240	3,456,472	3,800,832	4,280,498	4,720,514	5,012,459	5,346,100	5,820,393
Agricultural sciences	278,308	275,613	282,236	302,916	322,488	325,228	347,376	381,534
Biological sciences	1,194,887	1,295,851	1,402,704	1,582,015	1,704,308	1,807,643	1,914,965	2,103,712
Medical sciences	1,575,057	1,739,955	1,959,434	2,210,467	2,496,476	2,663,338	2,840,005	3,085,409
Other, n.e.c	106,988	145,053	156,458	185,100	197,242	216,250	243,754	249,738
Psychology	102,377	110,127	119,285	135,088	146,664	155,907	176,522	204,772
Social sciences	148,252	167,417	163,178	183,261	206,358	219,545	243,354	270,574
Economics	42,797	44,481	42,691	48,127	53,381	53,092	56,495	62,750
Political science	19,148	19,602	23,422	24,516	25,362	24,913	28,021	35,665
Sociology	38,320	47,885	42,552	47,057	52,506	58,028	69,547	79,895
Other, n.e.c	47,987	55,449	54,513	63,561	75,109	83,512	89,291	92,264
Other sciences, n.e.c	90,154	105,478	111,906	119,829	125,407	135,617	108,755	100,099

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 7. R&D expenditures at public universities and colleges, by source of funds and science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Source and field	1985	1986	1987	1988	1989	1990	1991	1992
Total	6,285,044	7,110,791	7,900,839	8,770,578	9,857,300	10,813,713	11,801,306	12,634,376
Source of funds:								
Federal Government	3,489,801	3,839,844	4,179,664	4,713,088	5,205,570	5,626,743	6,052,934	6,598,442
State and local governments	683,915	831,559	926,493	995,732	1,108,694	1,203,577	1,341,435	1,367,433
Industry	342,533	439,944	494,293	546,511	636,588	737,556	794,616	857,491
Institutional funds	1,327,788	1,550,197	1,802,588	1,955,754	2,282,223	2,536,251	2,825,475	2,957,206
All other sources	441,007	449,247	497,801	559,493	644,226	709,586	786,846	853,805
Field:								
Engineering, total	852,185	1,005,090	1,167,805	1,335,181	1,558,898	1,772,415	1,968,452	2,060,942
Aeronautical and astronautical	37,985	44,475	52,807	66,807	78,667	90,811	104,775	115,157
Chemical	75,539	83,520	91,988	102,298	121,302	143,775	154,568	173,320
Civil	115,213	137,529	144,496	170,316	194,491	230,390	259,488	275,972
Electrical	181,258	218,121	250,796	298,926	364,427	408,488	422,951	436,040
Mechanical	113,949	128,706	157,125	184,112	207,250	245,771	266,123	280,536
Metallurgical and materials 1/	--	--	--	--	--	199,998	231,097	212,986
Other, n.e.c	328,241	392,739	470,593	512,722	592,761	453,184	529,451	566,932
All sciences, total	5,432,859	6,105,701	6,733,034	7,435,397	8,298,401	9,041,298	9,832,855	10,573,434
Physical sciences	682,100	753,795	836,948	936,905	1,018,147	1,127,029	1,223,781	1,293,160
Astronomy	65,797	69,560	76,175	88,361	95,754	113,577	142,520	153,874
Chemistry	268,154	297,333	330,203	362,110	391,746	418,157	445,158	468,731
Physics	313,792	349,561	380,257	424,769	464,749	510,664	529,296	561,862
Other, n.e.c	34,357	37,341	50,313	61,665	65,898	84,631	106,806	108,694
Environmental sciences	521,733	583,835	636,073	668,581	747,767	819,848	858,424	971,266
Atmospheric	88,012	100,121	111,791	110,745	133,184	143,776	145,752	157,620
Earth sciences	183,925	202,247	207,549	212,209	231,153	260,655	285,057	310,988
Oceanography	194,124	213,067	233,683	262,149	279,517	307,105	315,158	355,125
Other, n.e.c	55,672	68,400	83,050	83,478	103,913	108,314	112,458	147,533
Mathematical sciences	67,140	82,689	100,077	108,760	120,513	128,659	135,559	144,533
Computer sciences	122,009	139,303	167,067	170,421	209,112	248,695	291,966	283,327
Life sciences	3,509,736	3,907,870	4,290,102	4,768,355	5,330,213	5,747,658	6,296,381	6,812,758
Agricultural sciences	963,721	1,050,770	1,080,284	1,132,669	1,237,734	1,304,107	1,410,432	1,466,675
Biological sciences	1,126,280	1,228,745	1,330,471	1,491,229	1,649,261	1,784,473	1,940,199	2,093,462
Medical sciences	1,311,847	1,473,398	1,707,830	1,957,292	2,239,301	2,433,122	2,689,448	2,991,659
Other, n.e.c	107,888	154,957	171,517	187,165	203,917	225,955	256,301	260,961
Psychology	106,943	113,866	123,547	140,583	159,468	175,427	203,501	233,966
Social sciences	280,833	339,990	363,742	403,478	460,427	529,972	571,884	602,920
Economics	91,896	106,896	114,249	119,630	138,278	151,534	162,966	177,604
Political science	41,107	45,868	50,104	52,467	61,427	76,242	80,441	81,048
Sociology	49,542	61,092	58,764	71,808	81,477	95,458	113,681	116,425
Other, n.e.c	98,288	126,134	140,625	159,573	179,245	206,738	214,796	225,843
Other sciences, n.e.c	142,365	184,153	215,478	238,314	252,754	264,010	251,358	231,504

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 8. R&D expenditures at private universities and colleges, by source of funds and science and engineering field: fiscal years 1985-92

[Dollars in thousands]

Source and field	1985	1986	1987	1988	1989	1990	1991	1992
Total	3,401,376	3,816,157	4,251,096	4,692,218	5,161,704	5,520,687	5,836,321	6,245,329
Source of funds:								
Federal Government	2,573,375	2,870,476	3,161,906	3,478,433	3,791,238	4,010,742	4,173,169	4,488,590
State and local governments	66,231	83,576	96,937	110,696	125,447	135,020	143,009	138,083
Industry	217,494	259,815	295,868	325,449	381,844	392,841	415,292	444,527
Institutional funds	289,266	318,812	365,939	400,928	451,682	496,486	578,890	619,201
All other sources	253,010	283,478	330,446	376,712	431,494	485,599	525,960	554,927
Field:								
Engineering, total	565,691	635,644	723,939	760,973	838,811	890,731	938,960	1,021,320
Aeronautical and astronautical	42,540	49,947	55,343	56,007	66,410	68,509	71,346	76,490
Chemical	40,671	48,740	56,374	60,261	72,758	74,837	89,392	88,875
Civil	37,943	40,455	46,184	54,650	51,721	54,510	57,391	64,664
Electrical	156,145	176,748	200,040	210,217	235,585	259,004	260,063	275,706
Mechanical	93,802	99,281	117,748	119,357	136,530	146,480	156,490	175,588
Metallurgical and materials 1/	--	--	--	--	--	73,673	75,159	81,311
Other, n.e.c	194,590	220,473	248,250	260,481	275,806	213,717	229,119	258,686
All sciences, total	2,835,685	3,180,513	3,527,157	3,931,245	4,322,893	4,629,956	4,897,360	5,224,009
Physical sciences	466,041	532,629	560,930	616,831	630,765	682,310	721,276	764,682
Astronomy	30,286	32,235	32,254	38,403	40,836	56,017	66,426	78,071
Chemistry	153,058	172,052	182,942	202,731	217,788	232,770	225,804	232,485
Physics	237,261	281,025	293,204	314,892	319,761	331,140	342,536	353,485
Other, n.e.c	45,436	47,317	52,530	60,805	52,380	62,383	86,510	100,641
Environmental sciences	183,546	192,113	202,787	225,305	266,438	260,081	271,436	277,533
Atmospheric	19,522	19,827	19,858	26,808	37,062	34,290	34,400	36,267
Earth sciences	69,872	72,143	76,349	81,995	91,203	94,799	99,776	103,282
Oceanography	63,849	66,925	66,266	71,133	85,865	76,837	81,630	82,281
Other, n.e.c	30,303	33,218	40,314	45,369	52,308	54,155	55,631	55,703
Mathematical sciences	60,590	68,672	77,169	90,088	93,487	92,367	94,619	102,559
Computer sciences	158,747	182,013	205,344	238,088	263,078	265,143	261,627	272,245
Life sciences	1,769,079	1,982,405	2,237,983	2,488,656	2,751,592	3,000,494	3,199,596	3,415,059
Agricultural sciences	35,576	38,610	40,462	43,710	48,312	48,079	50,301	45,268
Biological sciences	654,107	716,797	812,665	907,398	991,526	1,072,342	1,114,907	1,225,471
Medical sciences	1,006,522	1,142,278	1,292,594	1,420,460	1,588,260	1,735,388	1,880,267	1,975,721
Other, n.e.c	72,872	84,720	92,262	117,088	123,493	144,685	154,121	168,599
Psychology	51,233	56,334	63,738	72,388	77,323	82,648	87,243	102,141
Social sciences	102,487	122,466	138,512	148,734	176,506	176,337	183,262	214,289
Economics	26,164	28,816	35,126	43,379	49,797	50,229	48,041	47,056
Political science	18,272	22,811	30,883	34,193	41,954	39,353	44,732	62,594
Sociology	25,947	35,785	37,904	37,683	40,321	38,638	44,276	47,207
Other, n.e.c	32,104	35,054	34,599	33,479	44,434	48,116	46,212	57,432
Other sciences, n.e.c	43,962	43,881	40,694	51,155	63,705	70,576	78,301	75,502

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 9. R&D expenditures at doctorate-granting institutions, by geographic division and State: fiscal years 1985-92

[Dollars in thousands]

Division and State	1985	1986	1987	1988	1989	1990	1991	1992
Total	9,547,107	10,773,115	11,989,574	13,279,537	14,757,061	16,048,230	17,326,346	18,504,707
New England	948,319	1,039,272	1,115,314	1,234,706	1,356,621	1,422,595	1,510,919	1,605,561
Connecticut	194,928	212,815	230,790	254,958	284,410	302,659	320,935	341,182
Maine	20,621	19,315	16,952	17,341	19,974	23,605	27,082	23,213
Massachusetts	606,887	673,378	719,581	790,391	867,521	896,804	948,938	1,007,705
New Hampshire	39,680	44,330	50,928	57,658	62,172	69,731	78,975	87,412
Rhode Island	56,597	59,735	65,516	77,543	79,801	82,634	88,448	96,507
Vermont	27,606	29,699	31,547	36,815	42,743	45,162	46,541	49,542
Middle Atlantic	1,527,490	1,749,417	1,935,109	2,143,366	2,352,278	2,520,575	2,644,739	2,834,213
New Jersey	141,476	180,841	214,696	243,271	281,890	326,028	349,902	376,540
New York	927,376	1,021,409	1,108,478	1,224,983	1,309,258	1,365,029	1,416,116	1,490,641
Pennsylvania	458,638	547,167	611,935	675,112	761,130	829,518	878,721	967,032
East North Central	1,353,660	1,509,270	1,709,642	1,897,912	2,081,176	2,235,583	2,452,608	2,625,663
Illinois	392,793	438,991	498,221	546,300	602,558	646,927	697,565	726,917
Indiana	158,983	176,374	188,086	211,813	227,266	240,696	262,508	282,982
Michigan	301,335	341,905	396,580	438,420	487,192	527,407	601,189	650,400
Ohio	261,448	287,603	329,344	381,895	427,345	457,189	503,725	546,256
Wisconsin	239,101	264,397	297,411	319,484	336,815	363,364	387,621	419,108
West North Central	646,013	738,470	801,223	869,292	964,779	1,072,851	1,209,462	1,248,135
Iowa	132,251	148,312	157,539	181,481	209,394	232,472	259,437	268,721
Kansas	80,144	90,579	93,931	99,655	107,856	114,651	124,174	139,012
Minnesota	173,322	201,743	222,381	236,115	258,614	292,046	331,471	317,142
Missouri	160,985	185,935	205,597	232,148	255,009	285,003	305,780	321,255
Nebraska	60,503	71,088	74,468	83,122	93,506	104,371	123,711	131,038
North Dakota	29,649	31,840	35,912	24,444	27,951	29,966	48,930	52,731
South Dakota	9,159	10,973	11,395	12,327	12,449	14,342	15,959	18,236
South Atlantic	1,587,615	1,818,813	2,095,181	2,328,705	2,735,597	2,973,001	3,216,535	3,403,825
Delaware	23,605	28,798	31,681	32,023	37,194	40,119	44,696	48,970
District of Columbia	64,892	73,170	85,470	94,851	111,325	112,146	118,398	133,524
Florida	210,824	236,478	278,847	298,933	385,556	433,413	438,054	422,993
Georgia	231,458	291,036	331,000	372,720	424,424	452,907	484,019	513,009
Maryland	541,776	606,632	723,915	795,718	921,848	977,593	1,088,420	1,151,400
North Carolina	254,370	281,929	313,819	366,995	419,848	441,860	501,841	551,349
South Carolina	68,768	86,603	95,811	102,160	120,137	137,269	151,204	163,839
Virginia	169,738	189,876	207,934	234,887	275,897	329,666	339,131	365,484
West Virginia	22,384	24,291	26,704	30,418	39,368	48,028	50,772	53,257
East South Central	327,700	394,527	443,718	523,249	572,766	637,640	680,813	718,756
Alabama	104,137	133,410	152,925	180,809	209,564	239,556	246,299	251,484
Kentucky	53,790	68,552	78,008	91,948	83,998	90,880	97,989	109,644
Mississippi	54,514	61,299	59,882	67,050	78,922	88,991	100,383	98,555
Tennessee	117,155	133,342	155,163	186,845	204,029	221,975	240,054	259,073
West South Central	884,827	981,094	1,093,236	1,209,435	1,351,243	1,510,818	1,658,954	1,752,432
Arkansas	30,051	35,379	35,529	37,955	43,676	48,861	55,081	60,657
Louisiana	125,478	134,200	148,563	165,623	180,032	207,509	235,726	243,614
Oklahoma	96,407	89,020	99,363	113,931	113,279	130,650	152,624	169,427
Texas	632,891	722,495	809,781	891,926	1,014,256	1,123,798	1,215,523	1,278,734
Mountain	586,898	666,287	725,759	803,902	885,912	998,476	1,085,661	1,180,477
Arizona	136,835	160,678	181,263	199,178	223,834	261,384	284,128	299,733
Colorado	158,785	175,760	185,699	206,287	226,555	249,958	260,587	285,736
Idaho	20,861	23,729	24,779	30,789	33,191	36,570	41,437	46,896
Montana	24,327	26,438	29,425	32,069	32,450	34,980	38,149	44,596
Nevada	24,315	29,535	34,254	40,034	45,555	53,750	66,742	71,425
New Mexico	104,968	118,569	132,145	129,067	136,189	151,927	170,139	189,179
Utah	100,712	112,915	120,878	146,029	164,828	187,076	201,470	212,731
Wyoming	16,075	18,663	17,316	20,429	23,310	22,831	23,009	30,181
Pacific	1,651,495	1,838,812	2,030,817	2,226,572	2,411,001	2,628,858	2,816,333	3,089,104
Alaska	42,584	45,008	47,432	49,856	56,701	65,571	67,432	67,881
California	1,230,895	1,379,262	1,554,787	1,722,075	1,845,555	2,003,043	2,141,728	2,338,478
Hawaii	54,025	57,383	57,345	64,278	70,733	76,525	78,166	80,258
Oregon	114,151	124,195	135,326	148,309	161,127	171,550	179,340	203,693
Washington	209,840	232,964	235,927	242,054	276,885	312,169	349,667	398,594
Outlying Areas	31,194	35,077	37,315	38,995	41,941	44,071	48,410	48,541

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

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Table 10. R&D expenditures at doctorate-granting institutions, by geographic division, State, and source of funds: fiscal year 1992

[Dollars in thousands]

Division and State	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Total	18,504,707	10,875,392	1,464,412	1,258,036	3,522,476	1,384,391
New England	1,605,561	1,096,507	35,107	125,380	196,137	152,430
Connecticut	341,182	206,889	6,187	15,273	78,865	33,968
Maine	23,213	8,975	1,320	3,545	8,892	481
Massachusetts	1,007,705	724,121	14,461	94,639	67,169	107,315
New Hampshire	87,412	60,382	5,175	4,451	11,421	5,983
Rhode Island	96,507	63,383	5,434	3,135	22,345	2,210
Vermont	49,542	32,757	2,530	4,337	7,445	2,473
Middle Atlantic	2,834,213	1,766,060	139,494	225,341	462,375	240,943
New Jersey	376,540	162,818	41,882	25,972	119,163	26,705
New York	1,490,641	987,652	75,320	87,927	185,836	153,906
Pennsylvania	967,032	615,590	22,292	111,442	157,376	60,332
East North Central	2,625,663	1,445,126	229,115	168,266	535,913	247,243
Illinois	726,917	394,505	52,643	43,574	171,466	64,729
Indiana	282,982	153,981	20,271	21,165	64,601	22,964
Michigan	650,400	339,328	39,907	44,903	163,068	63,194
Ohio	546,256	319,575	50,177	39,876	82,022	54,606
Wisconsin	419,108	237,737	66,117	18,748	54,756	41,750
West North Central	1,248,135	604,742	174,054	85,547	308,383	75,409
Iowa	268,721	133,612	31,006	21,563	71,144	11,396
Kansas	139,012	53,150	30,467	8,302	42,537	4,556
Minnesota	317,142	165,971	49,720	17,537	61,587	22,327
Missouri	321,255	180,743	17,703	27,152	69,361	26,296
Nebraska	131,038	38,600	37,523	8,529	38,051	8,335
North Dakota	52,731	24,572	1,085	2,056	23,417	1,601
South Dakota	18,236	8,094	6,550	408	2,286	898
South Atlantic	3,403,825	2,039,435	297,188	257,011	655,613	154,578
Delaware	48,970	21,629	4,702	5,075	14,522	3,042
District of Columbia	133,524	94,107	1,428	8,113	15,871	14,005
Florida	422,993	225,060	31,775	35,077	108,535	22,546
Georgia	513,009	256,701	39,835	42,067	159,249	15,157
Maryland	1,151,400	825,739	82,288	44,211	166,264	32,898
North Carolina	551,349	332,927	69,901	63,625	65,197	19,699
South Carolina	163,839	59,688	15,480	19,061	51,932	17,678
Virginia	385,484	195,221	49,472	34,187	61,868	24,736
West Virginia	53,257	28,363	2,307	5,595	12,175	4,817
East South Central	718,756	402,812	78,882	57,060	135,689	44,313
Alabama	251,484	136,885	26,313	21,620	47,114	19,552
Kentucky	109,644	47,095	5,086	12,800	39,870	4,793
Mississippi	98,555	54,512	18,187	9,141	11,029	5,686
Tennessee	259,073	164,320	29,296	13,499	37,676	14,282
West South Central	1,752,432	768,317	245,200	117,231	419,699	201,985
Arkansas	60,657	22,063	15,441	5,381	14,321	3,451
Louisiana	243,614	89,089	64,885	17,757	51,397	20,486
Oklahoma	169,427	46,486	19,578	10,170	76,907	16,286
Texas	1,278,734	610,679	145,296	83,923	277,074	161,762
Mountain	1,180,477	684,332	75,354	91,108	262,969	66,714
Arizona	299,733	143,240	7,299	19,130	110,306	19,758
Colorado	285,736	203,402	13,333	20,776	21,776	26,449
Idaho	46,896	17,343	10,681	5,147	13,232	493
Montana	44,596	18,467	10,285	3,230	11,545	1,069
Nevada	71,425	35,599	3,109	5,992	25,553	1,172
New Mexico	189,179	110,587	15,121	22,460	31,320	9,691
Utah	212,731	142,396	12,874	11,532	38,330	7,599
Wyoming	30,181	13,298	2,652	2,841	10,907	483
Pacific	3,089,104	2,042,898	181,878	130,076	535,469	198,783
Alaska	67,881	32,066	3,680	3,275	27,205	1,655
California	2,338,478	1,542,897	111,168	90,829	427,366	166,218
Hawaii	80,258	47,684	26,775	337	3,319	2,143
Oregon	203,893	124,198	27,244	6,734	30,164	15,553
Washington	398,594	296,053	13,011	28,901	47,415	13,214
Outlying Areas	46,541	25,163	8,140	1,016	10,229	1,993

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 11. Total R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	Total							
	1992	1991	1990	1989	1988	1987	1986	1985
Total, all institutions	18,879,705	17,637,627	16,334,400	15,019,003	13,462,796	12,151,935	10,926,948	9,686,420
1 Johns Hopkins Univ 1/	735,542	710,095	668,915	648,395	557,016	510,896	440,844	398,630
2 University of Michigan	393,059	363,582	310,578	280,905	250,169	224,890	187,859	163,713
3 Stanford University	367,980	314,941	299,511	285,994	277,504	240,885	223,162	199,185
4 Univ of Wis-Madison	352,706	326,489	309,841	285,982	271,418	254,493	231,099	208,425
5 Mass Inst of Technology 2/	324,453	318,901	311,767	287,157	270,584	264,416	257,726	242,966
6 University of Minnesota	317,026	331,471	292,046	258,614	236,115	222,381	201,743	173,322
7 University of Washington	313,514	274,423	245,313	221,712	190,735	187,062	186,572	163,962
8 Texas A & M University	305,390	288,005	272,800	250,706	231,161	219,853	207,362e	184,899e
9 Cornell University 2/	299,342	309,535	300,144	286,733	271,659	253,971	225,400	203,226
10 Univ of Cal San Francisco	295,784	268,700	238,278	219,446	193,289	169,436	147,785	131,348
Total, 1st 10 insts.	3,704,796	3,506,142	3,249,193	3,025,644	2,749,650	2,548,283	2,309,552	2,069,676
11 Univ of Cal Berkeley 2/	284,545	258,038	231,061	209,967	186,372	175,273	158,990	149,900
12 Univ of Cal San Diego	282,114	261,422	237,032	216,991	200,472	183,047	161,054	145,550
13 Pennsylvania State Univ	278,305	267,816	256,926	219,930	188,444	165,841	146,270	113,196
14 Univ of Cal Los Angeles	270,954	250,033	246,795	227,828	209,338	188,831	168,158	149,744
15 Harvard University	253,126	229,939	220,812	209,519	190,429	169,074	154,390	138,063
16 University of Ill Urbana	251,970	243,380	225,634	210,590	197,393	188,682	158,947	139,563
17 Univ of Texas at Austin	228,545	237,043	228,203	193,337	172,608	168,931	145,324	126,657
18 Univ of Pennsylvania	222,424	198,221	189,390	173,744	159,218	158,334	152,746	130,397
19 University of Arizona	221,999	213,726	195,633	174,119	155,464	138,726	124,790	105,765
20 Univ of MD College Park	219,041	206,432	166,022	149,510	135,531	126,239	101,650	91,905
Total, 1st 20 insts.	6,217,819	5,872,192	5,446,701	5,011,179	4,544,919	4,211,261	3,781,871	3,360,416
21 Yale University	211,569	193,893	180,706	171,139	162,188	145,818	136,072	117,023
22 Univ of Cal Davis	209,282	200,664	198,075	180,297	154,655	143,798	123,788	114,862
23 Ohio State University	203,291	194,919	178,569	173,485	154,652	123,246	112,623	103,350
24 Columbia Univ Main Div	199,516	194,666	182,769	172,145	160,976	149,904	145,416	136,577
25 Univ of Southern Cal	194,740	175,595	169,102	162,013	150,009	134,995	116,399	97,282
26 Duke University	188,678	164,232	140,708	131,090	113,968	89,556	78,831	68,899
27 Georgia Institute of Tech	180,263	176,729	168,193	174,664	143,051	120,342	105,457	90,445
28 Univ. of Colorado	176,266	160,526	154,723	143,720	128,015	112,276	104,576	93,416
29 Washington University	170,339	160,464	151,249	128,419	117,829	103,419	90,226	80,233
30 Baylor Col of Medicine	167,998	161,084	155,122	134,681	106,814	90,179	68,993	63,197
Total, 1st 30 insts.	8,119,761	7,654,964	7,125,917	6,582,832	5,937,076	5,424,794	4,864,252	4,325,700
31 University of Georgia	165,279	162,992	156,742	145,953	137,692	124,442	111,745	91,253
32 Rutgers the St Univ of NJ	162,089	151,335	137,985	124,574	105,150	94,555	79,894	59,392
33 Univ of NC at Chapel Hill	161,549	142,661	123,113	122,097	107,039	93,754	85,454	75,958
34 University of Pittsburgh	157,250	130,322	117,716	111,285	98,609	84,183	74,059	63,796
35 Louisiana State Univ Sys	151,844	147,626	135,849	122,357	114,698	102,070	91,709	90,280
36 N C State Univ at Raleigh	143,008	142,606	131,133	123,441	110,286	102,647	92,695	87,996
37 Michigan State University	142,308	133,249	126,987	121,456	116,320	111,810	100,861	92,515
38 Northwestern University	141,975	144,809	133,151	118,991	102,755	88,920	80,178	72,337
39 Purdue University	140,260	136,325	130,379	124,323	118,797	107,131	102,126	88,866
40 University of Florida	140,189	140,257	139,678	125,770	107,177	104,245	95,527	91,298
Total, 1st 40 insts.	9,625,512	9,087,166	8,458,650	7,823,059	7,055,599	6,438,551	5,778,500	5,139,391
41 University of Rochester 2/	139,992	131,777	129,011	123,997	114,061	101,598	95,824	86,650
42 University of Iowa	135,418	124,058	115,778	105,900	94,552	79,090	73,596	64,923
43 Iowa St U of Sci & Tech 2/	132,580	134,657	116,270	103,241	86,726	78,351	72,642	67,276
44 Univ. Of Tennessee System	131,240	128,418	116,644	113,187	104,179	91,417	80,156	71,615
45 VA Polytech Inst & St U	130,994	125,256	121,423	104,266	89,955	80,552	75,450	61,966
46 SUNY at Buffalo	128,428	113,441	109,190	100,291	87,635	70,474	64,404	57,045
47 University of Connecticut	124,010	123,794	117,932	109,328	89,630	81,575	74,287	75,155
48 New York University	122,399	112,106	108,511	104,451	100,872	98,924	92,787	83,896
49 Case Western Reserve U	118,391	104,199	93,384	86,168	77,303	70,850	57,530e	51,598
50 University of Chicago 2/	118,123	113,289	117,955	109,429	98,541	91,879	88,026	79,929
Total, 1st 50 insts.	10,907,087	10,298,161	9,604,748	8,883,317	7,999,053	7,283,261	6,553,202	5,839,444

See explanatory information and SOURCE at end of table.

Table 11. Total R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	Total							
	1992	1991	1990	1989	1988	1987	1986	1985
51 Univ Alabama Birmingham	117,844	113,317	110,603	100,666	85,030	72,692	59,401	47,167
52 Indiana University	117,565	102,461	89,191	81,793	73,526	65,341	59,160	54,796
53 UT MD Anderson Cancer Ct	112,121	108,988	91,283	85,903	75,642	65,417	63,318	56,137
54 California Inst of Tech 2/	111,733	115,526	105,730	98,731	92,530	86,565	78,776	65,810
55 Carnegie-Mellon Univ 2/	110,571	103,030	100,201	101,635	94,051	83,763	71,920	60,292
56 University of Virginia	110,103	96,733	96,815	81,281	74,572	63,861	57,472	51,653
57 University of Utah	108,486	94,621	89,018	83,340	75,789	68,194	60,478	54,354
58 Univ of MD Balt Prof Sch	107,830	100,163	83,689	75,854	68,787	57,931	36,934	32,097i
59 Oregon State University	107,573	96,199	90,686	91,355	88,953	82,786	78,168	74,768
60 Univ of Ill Chicago	102,267	90,520	85,268	83,329	75,922	64,701	54,846	48,734
Total, 1st 60 insts.	12,013,180	11,319,719	10,547,234	9,787,204	8,803,855	7,994,512	7,173,675	6,385,252
61 UT SW Medical Ctr-Dallas	102,263	94,511	85,919	79,920	70,392	62,907	52,619	46,671
62 Emory University	101,398	91,940	82,774	84,713	80,896	58,889	51,115	30,706
63 SUNY at Stony Brook	98,906	90,790	82,236	79,455	79,410	54,850	54,197	47,495
64 University of Miami	98,786	96,979	94,344	90,298	70,783	65,158	64,154	58,035
65 Univ of Missouri Columbia	97,242	96,748	88,181	71,055	66,365	61,212	57,653	50,765
66 Vanderbilt University	96,784	80,759	75,062	65,218	60,591	43,589	37,715	34,180
67 Princeton University 2/	93,958	92,002	91,514	82,914	76,891	65,089	51,789	46,027
68 University of Kentucky	92,244	81,137	74,959	69,532	69,003	55,042	53,770	47,387
69 University of Oklahoma	92,146	79,777	58,645	53,956	50,047	45,350	37,328	42,290
70 Univ of Nebraska-Lincoln	91,427	87,529	77,598	68,281	60,788	56,066	55,158	47,809
Total, 1st 70 insts.	12,978,334	12,211,891	11,358,466	10,495,540	9,469,021	8,562,664	7,689,173	6,836,617
71 Utah State University	89,776	94,167	86,450	69,944	59,273	41,343	42,351	37,526
72 Univ of Cal Irvine	89,275	82,523	78,074	66,806	60,100	51,691	49,979	44,458
73 Colorado State University	88,132	80,474	73,967	64,351	59,369	52,619	49,359	44,171
74 Yeshiva University	87,196	86,721	83,968	74,496	75,383	73,773	70,260	66,656
75 Washington State Univ	85,080	75,244	66,856	55,173	51,319	48,885	46,392	45,878
76 Univ of Med & Dent of N J	84,505	80,787	71,789	54,451	42,027	32,222	30,322	23,521
77 New Mexico State Univ	83,900	78,736	71,288	60,930	61,001	58,672	51,917	46,198
78 Boston University	83,701	74,881	73,651	66,325	61,505	58,299	53,225	44,135
79 University of Cincinnati	83,176	80,598	74,461	69,831	60,479	53,804	44,368	42,709
80 Woods Hole Ocngrphic Inst	82,845	76,979e	71,747	74,881	58,700	48,061	43,675	43,132
Total, 1st 80 insts.	13,835,920	13,023,001	12,110,717	11,152,734	10,058,177	9,082,013	8,171,021	7,275,001
81 Wayne State University	81,127	69,997	62,455	59,521	50,509	39,335	33,589	27,941
82 Univ of Hawaii-Manoa	80,258	78,166	76,525	70,733	64,278	57,345	57,383	54,025
83 University of New Mexico	80,071	67,344	57,728	52,970	47,729e	49,764e	49,856	45,581
84 Clemson University	77,579	70,236	66,664	56,699	49,375	46,495	38,963	32,326
85 CUNY Mt Sinai Sch of Med	75,561	66,310	63,752	56,856	49,727	46,137	40,193	37,750
86 Rockefeller University	75,102	74,090	75,245	73,945	68,588	66,760	63,216	59,159
87 University of Kansas	75,004	65,982	61,144	57,111	51,723	50,603	47,853	41,021i
88 Tulane University	72,190	71,781	56,407	45,195	42,619	38,393	34,871	28,144
89 Oklahoma State University	71,238	67,492	65,685	53,655	56,636	47,420	45,919	49,094
90 Arizona State University	69,346	63,489	59,849	44,347	39,510	38,763	33,580	28,953
Total, 1st 90 insts.	14,593,396	13,717,888	12,756,171	11,723,766	10,578,871	9,563,028	8,616,444	7,678,995
91 Virginia Commonwith Univ	69,189	65,608	62,730	52,193	42,951	42,329	38,729	35,221
92 Univ of South Florida	68,713	72,948	76,404	60,973	40,396	38,633	11,707	9,186
93 Univ of Alaska Fairbanks	67,881	67,432	65,571	56,701	49,856e	47,432i	45,008i	42,584i
94 Auburn University	66,773	69,913	66,795	53,814	52,737	48,045	47,930	36,279
95 Univ of Cal Santa Barbara	66,007	59,593	59,750	50,067	46,598	42,704	36,516	30,055
96 Mississippi State Univ	65,754	64,335	58,492	53,670	45,005	40,405	43,813	41,376
97 U Tex Hlth Sci Ctr S Anto	65,179	51,768	45,663	42,501	39,673	34,476	33,165	29,845
98 Georgetown University	64,937	60,454	50,867	53,597	44,783	35,981	29,254	27,878
99 Univ of Mass - Amherst	62,990	--	--	--	--	--	--	--
100 Unif Serv Univ of Hlth Sc	59,171	47,096	36,080	27,062	15,991	12,076	12,960	10,536
Total, 1st 100 insts.	15,249,990	14,277,035	13,278,523	12,174,344	10,956,861	9,905,109	8,915,526	7,941,955
Total, all other sampled insts.	3,457,858	3,220,460	2,927,005	2,726,114	2,505,935	2,246,826	2,011,422	1,744,465
Estimated total non-sampled insts.	171,857	140,132	128,872	118,545	0	0	0	0

1/ Johns Hopkins University includes Applied Physics Laboratory with $463 million in total R&D expenditures.

2/ These data do not include R&D expenditures at university-associated federally funded research and development centers. See tables B-73 and B-74.

NOTE: A number of institutions have developed, or are in the process of developing new computer systems and methodologies that enable them to report more accurately the total cost of science and engineering research; therefore, fiscal year 1992 comparisons with data reported in earlier years may be inappropriate.

KEY: c = confidential
e = estimated
i = imputed
-- = not available

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 12. Federally financed R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	Federally financed							
	1992	1991	1990	1989	1988	1987	1986	1985
Total, all institutions	11,087,032	10,226,104	9,637,485	8,996,808	8,191,521	7,341,570	6,710,320	6,063,176
1 Johns Hopkins Univ 1/	666,696	641,239	599,851	590,184	509,009	476,290	412,714	387,053
2 Stanford University	265,687	243,219	255,821	238,650	232,572	204,386	192,076	172,423
3 University of Washington	257,840	221,124	203,353	182,453	160,261	145,184	141,973	135,830
4 Mass Inst of Technology	237,972	237,667	233,813	215,140	210,419	206,785	201,097	189,935
5 University of Michigan	223,452	206,276	180,456	174,875	160,854	137,558	118,069	106,147
6 Univ of Cal San Diego	219,843	200,451	182,555	171,479	159,778	142,751	128,250	115,632
7 Univ of Cal San Francisco	202,283	190,936	175,257	159,906	137,747	117,302	105,694	95,615
8 Univ of Wis-Madison	199,816	183,652	178,862	169,452	162,384	149,665	138,784	123,989
9 Univ of Cal Los Angeles	180,743	167,885	164,442	159,002	146,946	130,763	121,668	109,689
10 Cornell University	180,361	173,478	171,249	157,984	153,662	144,604	134,660	119,319
Total, 1st 10 insts.	2,634,693	2,465,927	2,345,659	2,219,125	2,033,632	1,855,288	1,694,985	1,535,632
11 Columbia Univ Main Div	174,777	163,561	156,270	146,712	139,558	133,018	128,436	120,120
12 Harvard University	174,632	156,014	154,090	143,451	133,003	119,955	111,503	103,556
13 University of Minnesota	165,926	164,887	143,810	132,880	119,789	109,003	100,308	87,776
14 Univ of Pennsylvania	159,574	144,451	133,747	123,810	115,080	111,185	105,925	92,893
15 Yale University	157,345	149,506	144,962	138,835	132,952	116,943	107,600	98,700
16 Pennsylvania State Univ	151,877	146,212	136,656	114,646	106,020	93,200	82,412	70,099
17 Univ of Cal Berkeley	148,954	140,261	131,717	124,371	116,565	108,828	102,578	96,779
18 Univ of Southern Cal	141,713	132,230	123,714	119,005	112,615	101,749	92,906	76,425
19 Univ. of Colorado	129,894	119,068	116,394	109,145	96,041	83,144	74,887	69,359
20 University of Ill Urbana	129,086	118,748	117,168	114,398	109,633	104,420	83,996	80,536
Total, 1st 20 insts.	4,168,471	3,900,865	3,704,187	3,486,378	3,214,888	2,936,733	2,685,536	2,431,875
21 Duke University	125,742	114,879	106,053	99,036	86,240	87,925	82,879	56,437
22 Univ of Texas at Austin	124,614	113,192	109,593	94,311	89,982	88,395	75,152	65,029
23 Washington University	123,863	112,475	105,759	96,829	88,843	77,757	68,399	61,050
24 University of Pittsburgh	121,077	99,932	90,700	81,217	72,462	62,060	55,805	48,714
25 Univ of NC at Chapel Hill	113,774	103,485	92,468	93,280	82,723	72,529	64,625	55,746
26 Texas A & M University	112,918	97,727	93,001	93,584	90,163	75,432	75,946	71,346
27 University of Rochester	110,413	106,874	105,644	101,049	92,533	80,322	75,939	64,064
28 University of Arizona	105,912	101,818	92,920	80,533	73,309	65,024	61,973	51,694
29 Georgia Institute of Tech	101,295	101,476	94,842	98,048	78,798	63,132	58,432	50,349
30 California Inst of Tech	99,198	100,820	90,577	84,167	78,750	71,086	63,708	56,805
Total, 1st 30 insts.	5,307,277	4,953,543	4,685,744	4,408,432	4,048,691	3,660,395	3,348,394	3,013,109
31 Ohio State University	97,940	88,542	78,878	75,484	69,135	58,555	56,418	53,240
32 University of Chicago	97,182	93,683	96,327	90,459	80,967	75,889	73,304	66,950
33 Univ of Cal Davis	91,318	79,961	77,424	72,718	63,435	56,622	48,549	47,652
34 University of Iowa	88,360	81,007	79,046	74,271	64,370	57,159	52,497	48,059
35 New York University	87,081	81,896	80,756	81,143	77,746	76,126	69,099	60,567
36 Baylor Col of Medicine	85,734	78,752	75,793	69,336	60,825	49,834	46,729	41,749
37 Case Western Reserve U	83,387	76,390	70,515	68,632	59,078	53,580	47,032	42,182
38 Univ of MD College Park	82,469	77,866	66,410	58,924	55,365	55,194	43,769	39,365
39 Univ Alabama Birmingham	82,392	76,317	74,486	68,204	62,369	54,534	45,337	39,030
40 Vanderbilt University	79,594	71,021	66,747	56,151	44,646	31,343	27,269	24,709
Total, 1st 40 insts.	6,182,734	5,758,978	5,452,126	5,123,754	4,686,627	4,229,231	3,858,397	3,476,612
41 University of Utah	79,386	68,769	62,297	61,819	57,383	54,226	51,428	45,564
42 SUNY at Buffalo	77,628	68,945	66,876	64,453	60,097	51,212	47,308	42,860
43 University of Miami	76,477	69,847	68,144	63,101	48,971	38,052	36,531	32,817
44 Woods Hole Ocngrphic Inst	74,229	67,154e	62,356	64,333	49,400	42,239	38,666	38,560
45 Univ. Of Tennessee System	72,047	63,575	58,644	57,736	53,897	45,808	42,615	38,245
46 Emory University	69,894	60,586	52,367	46,497	43,668	36,698	32,819	26,136
47 Indiana University	69,871	61,831	57,155	58,334	52,498	44,211	40,024	37,527
48 Carnegie-Mellon Univ	69,848	65,290	64,550	65,079	63,009	53,817	41,706	37,666
49 Northwestern University	69,241	62,718	62,183	57,510	54,245	49,286	46,755	42,317
50 Purdue University	68,224	67,810	64,464	63,979	64,163	56,302	56,475	48,542
Total, 1st 50 insts.	6,909,579	6,415,503	6,071,162	5,726,595	5,233,958	4,701,082	4,292,724	3,866,848

See explanatory information and SOURCE at end of table.

Table 12. Federally financed R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	Federally financed							
	1992	1991	1990	1989	1988	1987	1986	1985
51 Yeshiva University	68,152	67,831	65,066	58,224	58,823	59,768	56,922	55,794
52 University of Virginia	68,151	61,060	58,801	51,214	47,482	41,267	38,541	35,152
53 University of Florida	67,590	66,777	64,614	60,731	54,785	49,311	46,751	42,031
54 Boston University	66,677	60,166	60,459	56,402	51,918	49,406	45,457	38,257
55 Michigan State University	66,466	61,646	58,221	51,741	49,771	44,989	47,725	46,605
56 SUNY at Stony Brook	63,608	58,977	55,911	49,726	54,017	40,302	35,249	31,946
57 New Mexico State Univ	62,872	57,522	54,688	45,660	43,481	37,904	33,394	29,235
58 UT SW Medical Ctr-Dallas	61,499	57,746	54,965	51,254	48,357	45,382	38,504	34,087
59 Colorado State University	59,766	55,689	50,744	46,572	44,600	38,961	36,592	28,702
60 Oregon State University	59,739	51,099	50,544	49,112	48,877	46,774	41,307	41,117
Total, 1st 60 insts.	7,554,099	7,014,016	6,645,175	6,247,231	5,736,069	5,155,146	4,713,166	4,249,772
61 Rutgers the St Univ of NJ	56,625	48,822	40,977	35,896	29,204	27,178	24,059	23,947
62 University of Cincinnati	56,375	47,445	44,966	40,598	35,986	32,044	27,758	24,924
63 Princeton University	55,722	52,335	51,559	47,176	47,245	43,505	36,199	30,892
64 Univ of Cal Irvine	55,331	52,652	52,492	46,492	42,894	38,138	38,328	34,772
65 Utah State University	54,904	61,762	58,965	42,449	34,763	22,109	22,814	21,716
66 Univ of Cal Santa Barbara	52,777	46,647	47,873	39,227	36,205	32,856	27,320	23,131
67 VA Polytech Inst & St U	51,281	47,866	45,949	38,597	33,771	32,129	30,259	25,650
68 CUNY Mt Sinai Sch of Med	50,853	42,035	43,607	37,233	32,852	31,024	26,166	23,997
69 N C State Univ at Raleigh	50,501	46,894	43,787	37,783	34,256	33,662	30,851	28,229
70 University of Georgia	48,962	45,019	43,864	42,797	39,703	35,261	32,184	28,403
Total, 1st 70 insts.	8,087,430	7,505,493	7,119,214	6,655,479	6,102,948	5,483,052	5,009,104	4,515,433
71 Louisiana State Univ Sys	48,641	57,059	48,802	40,114	35,578	31,089	27,808	26,086
72 Univ of Ill Chicago	48,484	43,203	43,968	43,288	40,260	34,570	30,109	26,357
73 Univ of MD Balt Prof Sch	48,088	43,682	38,841	35,970	33,102	26,244	21,735	19,738i
74 Univ of Hawaii-Manoa	47,684	44,857	42,665	40,574	38,560	34,472	35,322	34,886
75 University of Connecticut	45,967	46,156	43,477	46,184	38,953	36,884	36,142	36,944
76 Virginia Commonwith Univ	45,891	44,974	41,606	35,151	31,150	31,095	27,242	26,816
77 Iowa St U of Sci & Tech	45,144	42,793	34,043	28,895	23,306	19,682	17,376	16,030
78 Georgetown University	42,659	41,597	36,093	37,351	30,666	24,477	19,894	16,887
79 Tufts University	42,112	39,113	38,290	40,771	41,953	37,148	32,696i	28,249i
80 U Tex Hlth Sci Ctr S Anto	41,048	32,770	29,431	29,324	27,528	22,469	22,779	19,697
Total, 1st 80 insts.	8,543,148	7,941,697	7,516,430	7,033,101	6,444,004	5,781,182	5,280,207	4,769,123
81 University of New Mexico	40,033	30,141	25,449	23,934	24,862e	29,096	35,810	33,040
82 University of Kentucky	39,828	31,636	29,612	27,010	27,724	26,261	21,736	16,497
83 Univ of Med & Dent of N J	39,092	38,768	33,185	27,983	21,849	16,989	15,840	14,753
84 Dartmouth College	38,791	34,317	30,135	27,222	25,729	21,884	18,816i	15,769i
85 Washington State Univ	38,213	32,257	26,884	22,697	21,361	21,274	20,115	20,567
86 Brown University	37,856	35,571	36,919	34,506	35,150	32,024	25,333	22,645
87 Rockefeller University	37,832	36,759	36,788	41,192	37,452	37,983	35,738	30,047
88 Wake Forest University	37,505	33,385	30,182	28,511	23,026	18,772	16,497i	14,224i
89 U Tex Hlth Sci Ctr Housin	36,478	32,778	29,017	29,500	27,658	24,727	22,604	19,023
90 Wayne State University	35,569	30,583	28,488	28,167	22,716	16,927	15,789	15,682
Total, 1st 90 insts.	8,924,345	8,277,892	7,823,089	7,323,823	6,711,531	6,027,099	5,508,485	4,971,370
91 Univ of Mass - Worcester	35,413	--	--	--	--	--	--	--
92 University of Dayton	34,927	31,132	29,044	26,650	26,101	25,370	23,631	21,272
93 UT MD Anderson Cancer Ct	34,492	32,314	28,889	28,992	27,129	22,162	21,304	19,408
94 Oregon Hlth Sciences Univ	33,548	28,897	27,241	24,162	18,240	15,379	13,241	10,928
95 Univ of Mass - Amherst	33,408	--	--	--	--	--	--	--
96 Tulane University	33,304	36,713	28,331	24,095	23,727	21,836	18,420	14,471
97 Arizona State University	33,148	26,246	26,590	22,151	19,006	14,009	13,541	12,558
98 U of VT & State Agr Coll	32,757	30,860	30,555	28,535	25,539	22,289	19,848	18,957
99 Univ of Alaska Fairbanks	32,066	34,335	31,896	26,659	23,441e	21,523i	19,607i	17,691i
100 University of Kansas	31,992	26,419	26,786	26,420	24,880	22,941	21,837	19,731i
Total, 1st 100 insts.	9,259,400	8,524,808	8,052,421	7,531,487	6,899,594	6,192,608	5,659,914	5,106,384
Total, all other sampled insts.	1,751,591	1,637,076	1,524,789	1,408,216	1,291,927	1,148,962	1,050,406	956,792
Estimated total non-sampled insts.	76,041	64,220	60,275	57,105	0	0	0	0

1/ Johns Hopkins University includes Applied Physics Laboratory with $448 million in federally financed R&D expenditures.

NOTE: A number of institutions have developed, or are in the process of developing new computer systems and methodologies that enable them to report more accurately the total cost of science and engineering research; therefore, fiscal year 1992 comparisons with data reported in earlier years may be inappropriate.

KEY: c = confidential
e = estimated
i = imputed
-- = not available

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 13. R&D expenditures at public universities and colleges, by source of funds: fiscal year 1992

[Dollars in thousands]

Institution ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
Total, all institutions	12,634,376	6,598,442	1,367,433	857,491	2,957,206	853,805
1 University of Michigan	393,059	223,452	5,827	24,992	96,183	42,605
2 Univ of Wis-Madison	352,708	199,816	58,454	12,912	48,852	32,672
3 University of Minnesota	317,026	165,926	49,720	17,529	61,532	22,319
4 University of Washington	313,514	257,840	7,882	26,442	16,364	4,986
5 Texas A & M University	305,390	112,918	79,530	28,675	75,947	8,320
6 Univ of Cal San Francisco	295,784	202,283	17,736	6,573	39,063	30,129
7 Univ of Cal Berkeley	284,545	148,954	36,665	12,553	67,806	18,567
8 Univ of Cal San Diego	282,114	219,843	9,936	7,485	21,742	23,108
9 Pennsylvania State Univ	278,305	151,877	7,808	42,693	75,883	44
10 Univ of Cal Los Angeles	270,954	180,743	6,120	14,671	38,325	31,095
Total, 1st 10 insts.	3,093,397	1,863,652	279,678	194,525	541,697	213,845
11 University of Ill Urbana	251,970	129,086	34,437	20,070	58,964	9,413
12 Univ of Texas at Austin	228,545	124,614	12,840	4,814	58,189	28,088
13 University of Arizona	221,999	105,912	5,582	12,292	79,562	18,651
14 Univ of MD College Park	219,041	82,469	61,010	15,757	59,805	0
15 Univ of Cal Davis	209,282	91,318	13,735	6,125	83,030	15,074
16 Ohio State University	203,291	97,940	31,956	13,994	28,260	31,141
17 Georgia Institute of Tech	180,263	101,295	1,912	23,776	53,280	0
18 Univ. of Colorado	176,266	129,894	1,730	10,655	12,612	21,375
19 University of Georgia	165,279	48,962	34,667	6,679	73,806	1,165
20 Rutgers the St Univ of NJ	162,089	56,625	25,176	7,889	63,027	9,372
Total, 1st 20 insts.	5,111,422	2,831,767	502,723	316,576	1,112,232	348,124
21 Univ of NC at Chapel Hill	161,549	113,774	17,161	3,298	27,316	0
22 University of Pittsburgh	157,250	121,077	1,363	7,873	13,808	13,129
23 Louisiana State Univ Sys	151,844	48,641	58,305	9,657	22,900	12,341
24 N C State Univ at Raleigh	143,008	50,501	48,364	20,342	21,838	1,963
25 Michigan State University	142,308	66,466	25,320	6,304	32,911	11,307
26 Purdue University	140,260	68,224	17,936	12,607	33,546	7,947
27 University of Florida	140,189	67,590	11,152	11,849	42,390	7,208
28 University of Iowa	135,418	88,360	2,389	13,545	25,986	5,138
29 Iowa St U of Sci & Tech	132,580	45,144	28,201	8,011	45,002	6,222
30 Univ. Of Tennessee System	131,240	72,047	21,349	8,479	21,652	7,713
Total, 1st 30 insts.	6,547,068	3,573,591	734,263	418,541	1,399,581	421,092
31 VA Polytech Inst & St U	130,994	51,281	36,076	14,333	25,997	3,307
32 SUNY at Buffalo	128,428	77,628	4,852	7,831	19,705	18,412
33 University of Connecticut	124,010	45,967	4,813	5,831	59,608	7,791
34 Univ Alabama Birmingham	117,844	82,392	2,023	8,907	9,998	14,524
35 Indiana University	117,565	69,871	1,190	3,569	28,340	14,595
36 UT MD Anderson Cancer Ct	112,121	34,492	0	0	57,983	19,646
37 University of Virginia	110,103	68,151	6,276	8,296	14,290	13,090
38 University of Utah	108,486	79,386	197	4,124	18,592	6,187
39 Univ of MD Balt Prof Sch	107,830	48,088	14,844	13,724	23,138	8,036
40 Oregon State University	107,573	59,739	25,377	3,115	9,711	9,631
Total, 1st 40 insts.	7,712,022	4,190,586	829,911	488,271	1,666,943	536,311
41 Univ of Ill Chicago	102,267	48,484	5,217	3,539	32,714	12,313
42 UT SW Medical Ctr-Dallas	102,263	61,499	153	10,874	6,925	22,812
43 SUNY at Stony Brook	98,906	63,608	1,424	2,890	24,791	6,193
44 Univ of Missouri Columbia	97,242	28,047	13,074	7,612	42,441	6,068
45 University of Kentucky	92,244	39,828	5,022	9,253	33,348	4,793
46 University of Oklahoma	92,146	29,733	10,966	4,319	31,999	15,129
47 Univ of Nebraska-Lincoln	91,427	25,382	33,155	3,712	23,107	6,071
48 Utah State University	89,776	54,904	11,770	5,167	16,652	1,283
49 Univ of Cal Irvine	89,275	55,331	4,312	3,825	15,035	10,772
50 Colorado State University	88,132	59,766	10,460	4,213	8,710	4,983
Total, 1st 50 insts.	8,655,700	4,657,168	925,464	543,675	1,902,665	626,728

See explanatory information and SOURCE at end of table.

Table 13. R&D expenditures at public universities and colleges, by source of funds: fiscal year 1992

[Dollars in thousands]

Institution ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
51 Washington State Univ	85,080	38,213	5,129	2,459	31,051	8,228
52 Univ of Med & Dent of N J	84,505	39,092	6,005	5,337	27,083	6,988
53 New Mexico State Univ	83,900	62,872	8,739	3,958	7,306	1,025
54 University of Cincinnati	83,176	56,375	2,202	3,942	16,795	3,662
55 Wayne State University	81,127	35,569	5,511	7,486	24,787	7,774
56 Univ of Hawaii-Manoa	80,256	47,684	26,775	337	3,319	2,143
57 University of New Mexico	80,071	40,033	4,124	8,886	18,511	8,517
58 Clemson University	77,579	18,771	14,397	7,174	30,016	7,221
59 University of Kansas	75,004	31,992	2,828	4,877	33,102	2,205
60 Oklahoma State University	71,238	15,384	7,544	3,132	44,028	1,150
Total, 1st 60 insts.	9,457,638	5,043,153	1,008,718	591,263	2,138,663	675,841
61 Arizona State University	69,346	33,148	932	5,790	28,369	1,107
62 Virginia Commonwith Univ	69,189	45,891	2,197	6,285	12,499	2,317
63 Univ of South Florida	68,713	18,010	5,856	5,127	32,677	7,043
64 Univ of Alaska Fairbanks	67,881	32,066	3,680	3,275	27,205	1,655
65 Auburn University	66,773	15,415	23,006	6,807	16,896	4,649
66 Univ of Cal Santa Barbara	66,007	52,777	1,602	2,447	5,321	3,860
67 Mississippi State Univ	65,754	29,746	17,984	6,920	7,047	4,057
68 U Tex Hlth Sci Ctr S Anto	65,179	41,048	5,467	5,268	9,217	4,179
69 Univ of Mass - Amherst	62,990	33,408	4,758	5,466	14,157	5,201
70 Unif Serv Univ of Hlth Sc	59,171	16,176	0	0	42,995	0
Total, 1st 70 insts.	10,118,641	5,360,838	1,074,200	638,848	2,335,046	709,909
71 Kans St U - Ag & App Sci	57,723	18,583	25,856	2,586	9,067	1,631
72 U Tex Med Br Galveston	57,672	24,281	7,027	3,978	15,374	7,012
73 Univ of Cal Riverside	57,536	17,167	3,005	857	32,884	3,623
74 U Tex Hlth Sci Ctr Houstn	56,497	36,478	1,354	5,144	5,667	7,854
75 Univ of South Carolina	54,360	23,743	1,083	9,019	17,506	3,009
76 Temple University	53,921	26,869	891	4,155	19,172	3,034
77 Univ of Mass - Worcester	53,342	35,413	242	3,485	14,202	0
78 West Virginia University	52,482	27,740	2,307	5,585	12,033	4,817
79 Florida State University	50,178	27,649	3,195	598	17,749	987
80 U of VT & State Agr Coll	49,542	32,757	2,530	4,337	7,445	2,473
Total, 1st 80 insts.	10,661,894	5,631,518	1,121,490	678,392	2,486,145	744,349
81 Oregon Hlth Sciences Univ	49,313	33,548	39	1,043	11,984	2,699
82 University of Delaware	48,970	21,629	4,702	5,075	14,522	3,042
83 U of Houston	44,957	21,881	12,224	1,595	6,484	2,773
84 Univ of Ark Fayetteville	44,768	12,421	14,782	4,051	11,637	1,877
85 University of Idaho	44,140	16,601	10,586	4,064	12,697	192
86 Univ of Rhode Island	40,842e	25,480e	5,277i	1,253i	8,716i	116i
87 Univ of Nevada - Reno	37,546	14,065	1,246	916	20,690	609
88 SUNY Hlth Sci Ctr - Brkln	37,071	18,458	4,772	637	6,292	6,912
89 Texas Tech University	36,869	11,121	10,746	4,815	8,565	1,622
90 Univ of Cal Santa Cruz	36,413	20,237	1,672	483	11,402	2,619
Total, 1st 90 insts.	11,082,783	5,826,979	1,187,536	702,324	2,599,134	766,810
91 SUNY at Albany	35,856	25,988	820	1,080	5,381	2,587
92 North Dakota State Univ	34,466	8,677	956	1,193	22,255	1,385
93 Montana State University	34,419	13,443	8,927	2,983	8,321	745
94 Univ of New Hampshire	33,744	21,591	1,062	1,813	5,648	3,630
95 Univ Alabama Huntsville	32,017	24,432	589	1,963	5,033	0
96 Med Univ of S. Carolina	31,900	17,174	0	2,868	4,410	7,448
97 U of Neb Med Ctr at Omaha	31,564	9,740	4,237	2,163	13,295	2,129
98 San Diego State Univ	30,683	15,679	6,251	1,865	5,682	1,206
99 University of Oregon	30,242	21,002	621	228	6,212	2,179
100 University of Wyoming	30,181	13,298	2,652	2,841	10,907	483
Total, 1st 100 insts.	11,407,855	5,998,003	1,213,651	721,321	2,686,278	788,602
Total, all other sampled insts.	1,091,256	544,756	130,363	111,394	248,341	56,402
Estimated total non-sampled insts.	135,265	55,683	23,419	24,776	22,587	8,801

NOTE: A number of institutions have developed, or are in the process of developing new computer systems and methodologies that enable them to report more accurately the total cost of science and engineering research; therefore, fiscal year 1992 comparisons with data reported in earlier years may be inappropriate.

KEY: c = confidential
e = estimated
i = imputed
-- = not available

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 14. R&D expenditures at private universities and colleges, by source of funds: fiscal year 1992

[Dollars in thousands]

Institution ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
Total, all institutions	8,245,329	4,488,590	138,083	444,527	619,201	554,927
1 Johns Hopkins Univ	735,542	666,696	592	13,296	31,402	23,556
2 Stanford University	367,980	265,687	911	11,810	68,774	20,798
3 Mass Inst of Technology	324,453	237,972	3,444	49,828	7,385	25,824
4 Cornell University	299,342	180,361	40,063	13,879	39,636	25,403
5 Harvard University	253,126	174,632	448e	11,647e	18,259e	48,140
6 Univ of Pennsylvania	222,424	159,574	3,140	10,034	19,083	30,593
7 Yale University	211,569	157,345	907	9,442	18,795	25,080
8 Columbia Univ Main Div	199,516	174,777	2,422	6,454	4,017	11,846
9 Univ of Southern Cal	194,740	141,713	7,512	15,529	29,986	0
10 Duke University	188,678	125,742	3,047	31,977	13,503	14,409
Total, 1st 10 insts.	2,997,370	2,284,499	62,486	173,896	250,840	225,649
11 Washington University	170,339	123,863	3,011	15,192	12,127	16,146
12 Baylor Col of Medicine	167,998	85,734	2,177	6,630	20,656	52,801
13 Northwestern University	141,975	69,241	1,724	6,978	45,644	18,388
14 University of Rochester	139,992	110,413	6,547	9,085	2,679	11,268
15 New York University	122,399	87,081	1,321	4,588	10,750	18,659
16 Case Western Reserve U	118,391	83,387	2,541	6,851	10,803	14,809
17 University of Chicago	118,123	97,182	1,809	1,399	6,486	11,247
18 California Inst of Tech	111,733	99,198	486	3,280	5,319	3,450
19 Carnegie-Mellon Univ	110,571	89,848	5,833	19,003	5,974	9,913
20 Emory University	101,398	89,894	2,534	7,465	11,732	9,773
Total, 1st 20 insts.	4,300,289	3,180,340	90,469	254,367	383,010	392,103
21 University of Miami	98,786	76,477	1,574	8,566	4,861	7,308
22 Vanderbilt University	96,784	79,594	411	3,794	8,138	4,847
23 Princeton University	93,958	55,722	2,119	4,322	22,697	9,098
24 Yeshiva University	87,196	68,152	0	1,650	11,382	6,012
25 Boston University	83,701	66,677	599	8,437	0	7,988
26 Woods Hole Ocngrphic Inst	82,845	74,229	547	992	2,096	4,981
27 CUNY Mt Sinai Sch of Med	75,561	50,853	888	4,642	8,845	10,333
28 Rockefeller University	75,102	37,832	87	4,623	17,085	15,475
29 Tulane University	72,190	33,304	2,220	7,462	22,137	7,067
30 Georgetown University	64,937	42,659	105	4,947	11,387	5,839
Total, 1st 30 insts.	5,131,349	3,765,839	99,019	303,802	491,638	471,051
31 Brown University	55,585	37,856	157	1,882	13,596	2,094
32 Dartmouth College	53,668	38,791	4,113	2,638	5,773	2,353
33 Rensselaer Polytech Inst	50,769	24,313	4,453	12,161	3,827	6,215
34 Tufts University	50,633	42,112	21	7,668e	810e	22e
35 Wake Forest University	49,919	37,505	305	6,392	2,496e	3,221
36 Medical College of Wis	43,579	27,668	1,227	4,684	3,171	6,829
37 Thomas Jefferson Univ	41,329	28,861	0	12,468	0	0
38 University of Dayton	40,909	34,927	64	4,307	1,549	62
39 George Washington Univ	39,335	28,158	780	1,181	3,068	6,148
40 Brandeis University	35,229	21,800	180	0	4,576	8,673
Total, 1st 40 insts.	5,592,304	4,087,830	110,319	357,183	530,304	506,668
41 Syracuse University	32,145	14,715	2,416	5,195	6,393	3,426
42 Lehigh University	31,822	17,426	1,631	7,467	4,346	952
43 Loyola Univ - Chicago	30,099	18,071	495	3,442	3,027	5,064
44 Rice University	29,424	21,356	2,482	4,147	0	1,439
45 Rush University	26,184	9,130	811	3,218	8,896	4,129
46 The Medical Col of Penna	25,835	17,914	154	2,938	4,322	507
47 Drexel University	23,184	9,869	1,340	3,429	8,546	0
48 University of Notre Dame	22,679	15,058	1,041	4,658	1,922	0
49 St Louis University	19,932	17,708	352	523	228	1,121
50 Howard University	17,576	13,976	492	364	1,200	1,544
Total, 1st 50 insts.	5,851,184	4,243,053	121,533	392,564	569,184	524,850

See explanatory information and SOURCE at end of table.

Table 14. R&D expenditures at private universities and colleges, by source of funds: fiscal year 1992

[Dollars in thousands]

Institution ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
51 Hahnemann University	17,332	9,797	136	352	4,969	2,078
52 New York Medical College	16,799	13,061	204	1,429	0	2,105
53 Northeastern University	15,876	12,841	273	1,444	195	1,123
54 Stevens Institute of Tech	14,580	5,435	2,083	6,237	825	0
55 Brigham Young University	14,469	8,106	907	2,241	3,086	129
56 Oregon Grad Inst Sci/Tech	12,332	7,136	765	2,244	1,490	695
57 Clark Atlanta University	11,483	9,985	109	181	1,208	0
58 Eastern VA Medical School	11,238	6,966	0	0	0	4,272
59 Boston College	10,400	8,695	52	102	615	936
60 Albany Medical College	9,681	8,740	0	12	2,734	195
Total, 1st 60 insts.	5,985,374	4,331,817	126,062	406,806	584,306	536,383
61 Clarkson University	9,516	4,229	1,060	2,315	1,914	0
62 Polytechnic University	9,273	5,600	1,110	1,972	500	91e
63 Worcester Poly Institute	8,925	6,018	252	1,603	959	93
64 Mercer University	8,554	7,325	152	644	433	0
65 University of Denver	8,284	7,236	470	352	135	91
66 Creighton University	8,047	3,478	131	2,654	1,649	135
67 Loma Linda University	8,028	4,036	200	2,750	434	608
68 Chas R Drew U of Med Sci	7,882	5,949	804	141	396	572
69 Southern Methodist Univ	7,722	5,138	418	176	1,479	511
70 Inst Paper Sci and Tech	7,474	1,317	0	624	4,632	901
Total, 1st 70 insts.	6,069,061	4,382,143	130,659	420,037	596,837	539,385
71 Catholic Univ of America	7,346	5,388	20	1,544	0	394e
72 Meharry Medical College	7,258	6,673	0	111	136	338
73 Morehouse School of Med	7,106	6,155	0	261	280	430
74 Illinois Inst of Tech	6,293	4,165	339	1,145	644	0
75 University of Tulsa	5,961	1,369	1,068	2,649	868	7
76 Florida Inst of Tech	5,924	2,060	2,092	1,575	177	0
77 U Hlth Sci/Chcgo Med Schl	5,899	4,167	0	165	648	919
78 Wesleyan University	5,603	3,577	467	0	462	1,097
79 Tuskegee University	4,800	4,498	0	120	126	56
80 American University	4,330	3,926	31	77	216	80
Total, 1st 80 insts.	6,129,581	4,424,141	134,676	427,684	600,374	542,706
81 Marquette University	4,256	2,612	95	463	236	850
82 Alfred University	4,117	403	1,052	1,988	561	113
83 Hampton University	3,272	3,272	0	0	0	0
84 Texas Christian Univ	3,128	2,765	0	298	65	0
85 New York Inst Technology	3,085i	0i	0i	474i	2,611i	0i
86 Xavier University of LA	2,379	2,365	0	14	0	0
87 Institute of Textile Tech	2,281	0	0	2,143	138	0
88 Santa Clara University	2,103	459	0	225	1,312	107
89 Amherst College	2,080	933	0	98	1,049	0
90 Fordham University	1,936	1,468	50	0	0	418e
Total, 1st 90 insts.	6,158,218	4,438,418	135,873	433,387	606,346	544,194
91 Bryn Mawr College	1,746	801	20	0	925	0
92 University of Detroit	1,731	318	0	1,363	50	0
93 Occidental College	1,722	908	157	295	153	209
94 Ponce School of Medicine	1,715	1,573	70	0	50	22
95 Clark University	1,694	1,121	0	0	0	573
96 New Sch For Soc Research	1,572	376	0	0	0	1,196
97 Villanova University	1,560	882	150	328	200	0
98 Pomona College	1,531	358	0	124	389	660
99 Smith College	1,481i	312i	0i	0i	384i	785i
100 Baylor University	1,469	635	111	96	237	390
Total, 1st 100 insts.	6,174,439	4,445,702	136,381	435,593	608,734	548,029
Total, all other sampled insts.	34,296	22,530	651	4,216	4,288	2,613
Estimated total non-sampled insts.	36,592	20,358	1,051	4,718	6,179	4,285

NOTE: A number of institutions have developed, or are in the process of developing new computer systems and methodologies that enable them to report more accurately the total cost of science and engineering research; therefore, fiscal year 1992 comparisons with data reported in earlier years may be inappropriate.

KEY: c = confidential
e = estimated
i = imputed
-- = not available

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 15. Industry-sponsored R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	1992	1991	1990	1989	1988	1987	1986	1985
Total, all institutions	1,302,018	1,209,909	1,130,397	998,431	871,960	790,161	699,759	560,027
1 Mass Inst of Technology	49,828	45,712	43,460	39,650	33,256	35,064	34,764	32,007
2 Pennsylvania State Univ	42,693	37,587	34,806	30,256	24,068	20,114	16,905	15,715
3 Duke University	31,977	22,876	12,252	12,551	12,379	8,085	7,300	5,193
4 Texas A & M University	28,675	23,050	26,197	21,204	18,534	13,398	7,944	11,731
5 University of Washington	26,442	26,033	22,215	19,135	16,580	18,564	16,493	8,887
6 University of Michigan	24,992	24,717	27,128	22,023	14,782	14,451	12,481	11,677
7 Georgia Institute of Tech	23,776	22,496	21,256	21,346	21,567	23,628	21,944	18,730
8 N C State Univ at Raleigh	20,342	20,961	21,398	21,735	18,580	11,748	10,452	8,249
9 University of Ill Urbana	20,070	24,434	20,762	15,785	13,688	11,414	8,831	7,506
10 Carnegie-Mellon Univ	19,003	20,438	20,295	18,976	17,092	16,130	17,591	11,780
Total, 1st 10 insts.	287,798	268,304	249,769	222,661	190,524	172,596	154,705	131,475
11 University of Minnesota	17,529	19,270	18,086	12,389	10,670	11,056	11,157	8,135
12 Univ of MD College Park	15,757	11,938	14,229 i	12,940 i	11,451 i	10,149e	8,124e	7,374e
13 Univ of Southern Cal	15,529	13,852	18,896	14,716	11,805	9,999	6,376	5,361
14 Washington University	15,192	16,442	14,132	13,500	12,839	12,016	11,352	9,617
15 Univ of Cal Los Angeles 1/	14,671	8,619	8,310	7,548	8,492	14,360	12,659	0
16 VA Polytech Inst & St U	14,333	12,443	11,394	9,825	9,058	7,010	6,483	5,924
17 Ohio State University	13,994	15,409	14,744	20,244	10,910	9,278	7,826	7,140
18 Cornell University	13,879	16,761	16,620	16,627	15,806	17,169	14,256	12,526
19 Univ of MD Balt Prof Sch	13,724	11,898	12,791	11,183	8,017	7,652	6,827	4,414 i
20 University of Iowa	13,545	7,828	6,827	10,301	5,527	2,615	1,706	1,556
Total, 1st 20 insts.	435,951	402,764	385,798	351,934	295,099	273,900	241,451	193,522
21 Johns Hopkins Univ	13,296	14,953	14,961	11,013	9,247	7,755	3,538	3,076
22 Univ of Wis-Madison	12,912	12,624	12,123	11,035	9,556	8,586	8,007	7,217
23 Purdue University	12,607	11,962	11,832	11,451	10,325	9,579	8,778	9,583
24 Univ of Cal Berkeley 1/	12,553	11,970	10,892	8,480	8,267	6,580	6,143	0
25 Thomas Jefferson Univ	12,468	9,966	8,518	8,094	7,465	6,287	5,095	4,740
26 University of Arizona	12,292	12,091	10,246	9,729	12,245	11,638	11,158	9,402
27 Rensselaer Polytech Inst	12,161	12,236	11,418	9,066	9,014	8,006	5,813 i	5,262
28 University of Florida	11,849	13,376	12,237	10,579	8,529	9,404	7,902	8,254
29 Stanford University	11,810	11,935	12,931	13,764	11,628	10,979	8,833	8,044
30 Harvard University	11,647e	11,957	10,565e	10,461e	9,093e	7,778e	6,723e	5,410e
Total, 1st 30 insts.	559,546	525,834	501,321	455,606	390,468	360,492	313,439	254,510
31 UT SW Medical Ctr-Dallas	10,874	9,330	8,537	6,938	5,915	5,566	4,295	3,967
32 Univ. of Colorado	10,655	8,251	7,426	6,728	5,234	4,502	3,567	2,234
33 Univ of Pennsylvania	10,034	7,171	11,973	9,582	6,230	7,483	7,299	3,685
34 Louisiana State Univ Sys	9,657	8,616	3,759	2,120	2,348	1,481	998	1,372
35 N Mex Inst Mining & Tech	9,616	9,907 i	10,194	7,695	6,853	5,418	3,335	2,538 i
36 Yale University	9,442	8,700	7,014	6,563	5,649	5,563	1,790	1,729
37 University of Kentucky	9,253	7,476	6,720	5,819	4,191	6,312	8,173	4,768
38 University of Rochester	9,085	6,814	6,419	4,913	4,705	6,267	6,714	6,896
39 Univ of South Carolina	9,019	7,625	3,072	1,968	3,053	1,531	1,566	1,442
40 Univ Alabama Birmingham	8,907	7,867	7,241	6,602	6,153	4,544	4,508	3,705
Total, 1st 40 insts.	656,068	607,591	573,676	514,534	440,799	409,159	355,684	286,846
41 University of New Mexico	8,866	4,684	4,022	2,496	1,140	4,858	4,450	3,875
42 University of Miami	8,566	6,593	5,366	4,702	4,907	7,300	8,897	7,892
43 Univ. Of Tennessee System	8,479	8,857	7,199	6,515	7,225	5,662	4,286	4,176
44 Boston University	8,437	6,405	4,608	2,555	2,379	2,276	2,076	1,994
45 University of Virginia	8,296	8,153	6,406	5,768	4,733	3,260	2,941	2,347
46 Iowa St U of Sci & Tech	8,011	6,537	5,525	4,408	3,961	3,597	3,043	3,131
47 Rutgers the St Univ of NJ	7,889	7,769	6,754	6,087	4,498	3,087	2,594	2,108
48 University of Pittsburgh	7,873	7,110	6,481	9,406	8,738	6,547	5,428	4,069
49 SUNY at Buffalo	7,831	3,086	2,118	1,759	1,178	779	234	243
50 Tufts University	7,668e	7,740e	7,761e	8,010e	8,375	6,314e	982 i	828 i
Total, 1st 50 insts.	738,024	674,525	629,916	566,240	487,933	452,839	390,615	317,509

See explanatory information and SOURCE at end of table.

Table 15. Industry-sponsored R&D expenditures at universities and colleges: fiscal years 1985-92

[Dollars in thousands]

Institution ranking	1992	1991	1990	1989	1988	1987	1986	1985
51 Univ of Missouri Columbia	7,612	9,537	9,130	6,434	4,252	4,206	4,562	3,402
52 Wayne State University	7,486	7,295	5,875	3,850	2,897	2,761	1,717	1,241
53 Univ of Cal San Diego 1/	7,485	11,225	9,135	6,824	5,055	5,902	5,995	0
54 Lehigh University	7,467	8,133	8,030	7,596	7,479	6,731	5,514	4,286
55 Emory University	7,465	6,920	7,170	6,169	4,701	3,350	2,427	2,395
56 Tulane University	7,462	6,758	5,952	5,577	5,418	4,945	4,689	4,072
57 Clemson University	7,174	6,163	7,595	3,849	3,791	3,105	2,963	1,800
58 Northwestern University	6,978	6,960	5,989	5,289	3,532	3,101	2,256	1,690
59 Mississippi State Univ	6,920	7,163	6,389	3,886	3,430	2,823	2,081	1,606
60 Case Western Reserve U	6,851	4,867	4,954	2,915	3,975	3,433	2,992	2,408
Total, 1st 60 insts.	810,924	749,346	700,135	618,629	532,463	493,196	425,811	340,409
61 Auburn University	6,807	6,450	5,541	4,111	2,615	3,112	2,805	2,699
62 University of Georgia	6,679	5,821	5,797	4,877	5,659	4,982	4,360	3,729
63 Baylor Col of Medicine	6,630	7,294	7,746	7,263	5,329	4,879	3,772	4,241
64 U of Cal San Francisco 1/	6,573	5,475	5,276	6,226	5,127	4,008	4,119	0
65 Columbia Univ Main Div	6,454	6,619	5,618	5,408	4,841	3,915	4,086	4,027
66 Wake Forest University	6,392	5,927	5,642	4,859	4,183	2,402	1,768i	1,509i
67 Michigan State University	6,304	4,693	4,557	4,068	3,615	3,137	2,969	2,686
68 Virginia Commonwith Univ	6,285	6,201	4,835	3,910	3,283	3,192	2,195	2,019
69 Stevens Institute of Tech	6,237	1,635	960	600	1,966	1,852	1,786i	1,322i
70 Univ of Cal Davis 1/	6,125	6,599	7,481	8,039	6,975	5,324	4,510	0
Total, 1st 70 insts.	875,410	806,060	753,568	667,990	576,056	529,999	458,181	362,641
71 University of Connecticut	5,831	7,421	6,388	4,996	4,310	3,729	4,090	4,572
72 Arizona State University	5,790	6,860	7,354	2,382	2,832	5,575	3,061	2,441
73 West Virginia University	5,585	11,163	10,082	3,953	754	862	899	588
74 Colorado School of Mines	5,542	4,847	4,060	3,793	2,647	1,995	2,516	2,160
75 San Jose State University	5,498	588	599	609	595	878i	779i	679i
76 Univ of Mass - Amherst	5,466	--	--	--	--	--	--	--
77 Univ of Med & Dent of N J	5,337	3,471	2,908	2,583	1,983	1,421	1,322e	855e
78 U Tex Hlth Sci Ctr S Anto	5,268	6,876	6,166	5,535	4,908	4,404	4,302	3,458
79 Syracuse University	5,195	4,405	3,851	3,937	2,595	3,975	7,397	2,298
80 Utah State University	5,167	2,155	2,089	1,315	1,529	1,316	1,440	1,365
Total, 1st 80 insts.	930,089	853,846	797,065	697,093	598,209	554,154	483,987	381,057
81 U Tex Hlth Sci Ctr Houstn	5,144	6,392	5,142	3,266	3,385	3,494	3,661	1,217
82 Univ of South Florida	5,127	6,091	4,250	327	144	117	84	75
83 University of Delaware	5,075	4,732	4,397	4,073	3,558	3,659	3,551	2,809
84 Georgetown University	4,947	4,549	3,362	4,370	2,972	2,536	1,906	2,561
85 University of Kansas	4,877	4,228	4,473	2,809	2,934	3,259	2,527	1,426i
86 Texas Tech University	4,815	4,428	4,391	4,393	4,229	3,857	3,967	3,650
87 Univ of Texas at Austin	4,814	5,734	3,507	2,694	3,175	3,161	2,677	2,136
88 Medical College of Wis	4,684	4,175	3,189	3,684	3,243	2,018	1,422	1,131
89 University of Notre Dame	4,658	4,952	3,965	4,204	3,114	2,824	2,743	2,502
90 University of Akron	4,651	3,813	3,873	2,591	2,422	2,426	2,256	1,056
Total, 1st 90 insts.	978,881	902,940	837,814	729,504	627,385	581,505	508,781	399,620
91 CUNY Mt Sinai Sch of Med	4,642	3,978	4,053	3,732	2,982	2,870	950	1,426
92 Rockefeller University	4,623	4,816	4,918	3,453	3,764	3,476	3,321	2,861
93 New York University	4,588	5,947	5,260	4,066	3,677	3,036	4,292	3,742
94 Desert Research Institute	4,466	3,670	3,329	3,079	2,868	3,289	2,972	2,402
95 U of VT & State Agr Coll	4,337	4,181	3,473	3,486	3,139	2,877	3,331	2,613
96 Princeton University	4,322	4,595	4,964	5,640	4,487	4,122	2,989	1,184
97 University of Oklahoma	4,319	3,530	2,562	1,991	1,950	2,026	2,513	2,328
98 University of Dayton	4,307	4,359	4,790	4,164	4,013	3,335	2,786	2,556
99 Colorado State University	4,213	3,380	2,883	2,432	1,525	1,178	1,423	6,467
100 Temple University	4,155	3,452	2,707	2,544	3,699	0	0	274
Total, 1st 100 insts.	1,022,853	944,848	876,553	764,091	659,489	607,714	533,358	425,473
Total, all other sampled insts.	249,871	249,909	240,474	220,903	212,471	182,447	166,401	134,554
Estimated total non-sampled insts.	29,494	15,152	13,370	13,437	0	0	0	0

1/ Data for the University of California in fiscal year 1986 and subsequent years include industry-supported R&D expenditures for the first time. Industry data are not available for fiscal years prior to 1986.

NOTE: A number of institutions have developed, or are in the process of developing new computer systems and methodologies that enable them to report more accurately the total cost of science and engineering research; therefore, fiscal year 1992 comparisons with data reported in earlier years may be inappropriate.

KEY: c = confidential
e = estimated
i = imputed
-- = not available

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

Table 16. Current fund expenditures for research equipment at universities and colleges, by science and engineering field and source of funds: fiscal years 1985, 1991, and 1992

[Dollars in thousands]

Field	Total			Federal			Non-Federal		
	1985	1991	1992	1985	1991	1992	1985	1991	1992
Total	671,312	1,026,467	1,051,918	432,244	607,615	615,176	239,068	418,852	436,743
Engineering, total	124,356	233,946	238,919	78,294	134,630	126,076	46,062	99,316	112,842
Aeronautical and astronautical	6,563	17,369	11,683	4,924	14,467	8,581	1,639	2,902	3,102
Chemical	11,372	19,994	20,278	6,680	9,797	10,112	4,692	10,197	10,166
Civil	10,387	18,001	15,606	6,090	8,130	6,935	4,297	9,871	8,672
Electrical	32,736	51,632	58,860	22,418	29,902	33,723	10,318	21,730	25,136
Mechanical	17,469	34,108	32,628	11,379	17,551	19,089	6,090	16,558	13,539
Metallurgical and materials 1/	--	33,381	29,085	--	20,006	13,696	--	13,376	15,389
Other, n.e.c	45,829	59,461	70,778	26,803	34,777	33,941	19,026	24,683	36,837
All sciences, total	546,956	792,521	813,000	353,950	472,984	489,099	193,006	319,536	323,901
Physical sciences	141,775	190,586	199,964	113,207	139,503	151,625	28,568	51,082	48,339
Astronomy	7,019	14,188	13,963	4,863	8,753	9,634	2,156	5,435	4,329
Chemistry	53,924	70,268	71,873	41,358	47,539	50,802	12,566	22,749	21,070
Physics	71,227	85,375	91,009	60,173	66,702	73,027	11,054	18,673	17,983
Other, n.e.c	9,605	20,734	23,119	6,813	16,509	18,162	2,792	4,225	4,957
Environmental sciences	47,805	70,574	78,588	32,357	43,637	51,985	15,448	26,937	26,603
Atmospheric	8,272	10,187	10,820	6,962	7,718	8,345	1,310	2,469	2,475
Earth sciences	18,241	28,715	30,828	10,283	15,386	17,395	7,958	13,328	13,433
Oceanography	16,136	19,957	28,273	11,976	14,464	21,447	4,160	5,493	6,826
Other, n.e.c	5,156	11,715	8,667	3,136	6,069	4,798	2,020	5,646	3,869
Mathematical sciences	6,014	11,070	10,191	4,936	6,613	6,714	1,078	4,456	3,477
Computer sciences	35,452	58,774	45,404	29,408	43,574	29,534	6,044	15,200	15,870
Life sciences	282,498	411,027	430,557	157,034	217,939	228,738	125,464	193,088	201,820
Agricultural sciences	51,631	53,269	59,047	15,025	16,263	21,421	36,606	37,005	37,625
Biological sciences	104,699	166,398	175,509	70,508	99,904	106,314	34,191	66,493	69,195
Medical sciences	114,478	169,532	173,624	65,764	90,691	91,640	48,714	78,841	81,984
Other, n.e.c	11,690	21,829	22,378	5,737	11,080	9,362	5,953	10,749	13,016
Psychology	8,670	11,154	11,318	6,191	7,044	7,200	2,479	4,110	4,118
Social sciences	10,028	14,273	17,786	4,024	5,072	7,384	6,004	9,201	10,402
Economics	2,765	4,542	5,076	982	1,472	2,441	1,783	3,070	2,634
Political science	1,200	2,076	2,642	380	657	1,173	820	1,419	1,469
Sociology	1,964	2,751	3,513	1,056	1,380	1,821	908	1,371	1,692
Other, n.e.c	4,099	4,904	6,556	1,606	1,563	1,949	2,493	3,340	4,607
Other sciences, n.e.c	14,714	25,063	19,191	6,793	9,602	5,919	7,921	15,461	13,272

1/ Data for metallurgical and materials engineering were not collected separately prior to fiscal year 1990.

SOURCE: National Science Foundation/SRS, Survey of Scientific and Engineering Expenditures at Universities and Colleges

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